

# Creating Sustainable Space



Sustainability Report 2008



KOREA NATIONAL  
HOUSING CORPORATION

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KOREA NATIONAL  
HOUSING CORPORATION

## Significance of the Sustainability Report

To meet stakeholders' request for a corporate social responsibility, Korea National Housing Corporation is publishing its second sustainability report after the first one in 2006. This report contains management activities, performance indicators, and its determination in a total of four areas including the three axes (economy, environment, society) of sustainability management, and the newly added climate change part.

As the 'Act on Korea Land and Housing Corporation' was passed in the National Assembly in April, 2009, 'KNHC's Sustainability Report 2008' will be the last one that Korea National Housing Corporation publishes.

After 2010, the reports will be published under the name of 'Korea Land and Housing Corporation,' and the reporting period will be decided after the foundation of the corporation.

## Scope & Period of Report

Korea National Housing Corporation 'Sustainability Report 2008' provides the status of sustainability management from January 1st, 2007 to December 31st, 2008. Key performance indicators of DMA in economy, environment, and society area were mainly reported. Moreover, environmental data from main office, work fields, and regional headquarters were collected and reported.

## Reporting Principles

Our company strived to disclose the public performance indicators and plans transparently by following the GRI Guideline. Reporting Status for recommended items is indicated in GRI indicator table in appendix.

The GRI Guideline presents 79 performance indicators, and recommends companies to report mainly on appropriate indicators that follow the reporting principles and company's business situation. Korea National Housing Corporation conducted a materiality test of the 79 performance indicators with employees and outside experts, and announced our performances based on the priorities decided after the evaluation.

## Review of the External Experts

After the draft is created, KNHC appointed external experts with abundant experience in sustainability management to be the third party review committee members to collect their opinion. The third party review focused on whether the direction of KNHC's sustainability management is appropriate, and whether the report contains the information stakeholders would want.

## Standard of Performance Data Reporting

We tried to adhere to the principles presented in the G3 Guideline. The performance data in each of the 3 categories (economy, environment, society) was calculated according to the published index rules with the guideline. We presented past and current performance data by each performance index. Data on recent trends and plans were also reflected. In details, we provided ratios and absolute values, and by using global standard units such as meter and ton. In case of financial data, we utilized data calculated by domestic laws like business accounting standards widely used in Korea for rental houses.

## Difference from previous reports

### Wider Scope

The scope of the report on environmental data was expanded to the sites and the regional headquarters.

### The Mid-to-Long-Term Strategies

Issues were analyzed in the perspective of the mid-long-term management strategies of Korea National Housing Corporation.

Issues on the economy, society, and environment centered on the 23 practical tasks were provided, and activities and plans regarding climate change were stated.

### Strengthening Stakeholders' Participation

Issues were understood from the perspectives of stakeholders including the government, the local governments, and the media. Their opinions were reflected in the results provided.

### Reflecting the Opinions of Readers

The design was changed to be more readable, reflecting the reader's opinions from the 2006 sustainability report.

## Cover Story

### Creating Sustainable Space



Empty (空), gap (間). Space means an 'empty gap.'  
It is empty, but also holds limitless possibilities.

We have built houses and towns in empty space, and instilled the warm hearts of people into those empty spaces to make new names.

The empty space turned into a livable house, a town which people want to live in, and a community worth living in.

The amazing power space possesses!

We will do our best in breathing life into empty spaces, making something meaningless into something with a meaningful name, and taking care of spaces with a new life so that they will last forever.



## Awards and Membership

### Awards and External Recognition

- 2007 Green Housing Culture Award, ethical management category (Herald Business)
- 2007 First prize in the Korean Housing Service Contest (Money Today)
- 2007 Grand Prize in the Management category in the Korean Civil Engineering and Architectural Contest (Maeil Business Newspaper) 2007
- 2007 Minister of Environment's Award in the Ecological Landscape and Afforestation Contest (Ministry of Environment)
- 2007 Grand Prize in the environment category in the Korean District Heating Industry Contest (Ministry of Commerce, Industry and Energy)
- 2007 Proud Auditor Award (Institute of Internal Auditors)
- 2007 True Company Silver Prize (Ministry of Labor)
- 2007 Korea District Heating Industry Award (Korea District Heating & Cooling Association)
- 2008 Mt. Gwanak Humansia was selected as one of the finalists in the Apartment category in the Korea Architectural Culture Contest (Ministry of Land, Transport and Maritime Affairs)
- 2008 Euiwang Cheonggye Humansia won the Minister of Land, Transport and Maritime Affairs' award in the apartment category in the Environment-friendly Housing Culture Contest (YTN)
- 2008 Prime Minister's award in the public category in the Korean Landscape Contest (Korean Institute of Landscape Architecture)
- 2008 Korea Concrete Institute award (Korea Concrete Institute)
- 2008 Energy-saving award in the Asian Energy Industry Contest (Asian Economy)
- 2008 Korea's best apartment housing stabilization award (WOWTV)
- 2008 Social contribution award in the Green Housing Contest (Herald Business)
- 2008 First prize in the anti-corruption system category in the anti-corruption policy contest (Korea Anti-corruption and Civil Rights Commission)

### Membership Entries

- December 1988 Korean Society of Civil Engineers
- July 1990 NAHRO
- August 1990 Korea Concrete Institute
- January 1993 EAROPH
- March 1993 Korea Planners Association
- September 1993 Korean Association for Housing Policy Studies
- February 1995 Architectural Institute of Korea
- January 2000 Korean Society of Environment and Ecology
- December 2006 UN Global Compact
- April 2008 Korean Institute of Landscape Architecture



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# CEO's Message

## We'll make the finest work out of Korea

Korea National Housing Corporation, which was only a small tree in 1962, has grown to a pillar that drops a great shade in the housing and urban areas of Korea after 47 years. Last year, we successfully achieved our goal of building the 2,000,000th house. We built each houses with a hope of idealistic housing environment for Korea. This faith became a realistic dream and hope to Korean citizens who wish to have their own house.

So far, Korea National Housing Corporation has focused its energy on the basis of more people to realize their housing dreams. We built large-scale new towns and rental houses for the low-income class, and implemented customized housing welfare program. Our company is currently building 'green homes,' environment-friendly houses breathing with nature, and planned U-city, the city of the future on the cutting edge.

Since joining the UN Global Compact in 2006, Korea National Housing Corporation has been making efforts to comply with the 10 principles, and our sustainability report 2006 was named the best COP report in 2008.

October 1, 2009 「Sustainability Report 2008」, being published when the foundation of Korea Land and Housing Corporation is around the corner, looks back on the sustainability management performance of 2007~2008, and will provide an opportunity to forecast the role of the corporation in housing and urban policy directions in an era of green growth.

This report linked the 23 practical tasks of the mid-long-term management strategy, reflecting the opinions of internal and external stakeholders about Korea National Housing Corporation, to the sustainability management strategy, and disclosed the performance and future plans in each area. The report is not only an opportunity to show our outcomes, but also carries significance in that it allows us to confirm what the society requests of Korea National Housing Corporation and determine the direction we should pursue. It was also a declaration of our will to you, stakeholders, who have great expectations about the role of Korea National Housing Corporation.

In particular, this report describes our will to respond to domestic and overseas climate change issues. Reducing greenhouse gases to respond to global warming and climate change, and building an economic development system that can coexist with the environment have become urgent problems facing all of us. In step with the policies of the government that proclaimed 'Low Carbon, Green Growth' as its vision of the future, Korea National Housing Corporation will take the lead in building green homes and cutting-edge green cities using all our technologies such as energy-efficient designs and renewable energy. We consider taking the lead in fulfilling social responsibilities our most important task and our raison d'être as a public corporation.

Korea National Housing Corporation plans to play a leading role in the construction of 1.5 million Bogeumjari houses, which clearly represents the key housing policy of the government and the mission of Korea National Housing Corporation, i.e. 'contributing to improving the quality of life by creating urban space and housing welfare.' Furthermore, we will concentrate our energies on supplying high-quality low-price houses answering the customer's needs to allow people to live without worries of housing, and continuously carry out our policies to improve housing welfare by means of diverse programs and ideas.

'Korea National Housing Corporation' and 'Korea Land and Housing Corporation' will lay a solid foundation on which the dreams and hopes of people can grow and be realized. We hope that you will show interest in Korea National Housing Corporation now transforming into a public corporation for the people.

Thank you.

KNHC builds masterpiece houses across Korea  
to lay the ground for better future of our next generation



June, 2009  
President of Korea National Housing Corporation Choi, Jae-Duck

최재덕



# Space that Joins Generations



We have built houses and towns in empty space,  
and instilled the warm hearts of people  
into those empty spaces  
to make new names.  
The empty space  
turned into a joyful house,  
a town which people want to live in,  
and a community worth living in.  
The amazing power space possesses!  
We will do our best in breathing life into empty spaces,  
making something meaningless  
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and  
taking care of spaces with a new life  
so that they will last forever.



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# Introduction to KNHC



## ▼ Corporate Profile (end of 2008)

Company Name	Korea National Housing Corporation
Date of Foundation	1962. 7. 1.
Capital Stock	Statutory capital KRW 15 billion, Paid-in capital KRW 9,581.3 billion
Total Assets	KRW 64,152 billion
Sales	KRW 7,869 billion
Employees	4,204
Houses built	2,044,000 houses in total (rental houses: 53%, houses for sale: 47%)
Shareholder composition	The Government of the Republic of Korea (89.6%), Korea Development Bank (10.4%)
Investments and financing	<ul style="list-style-type: none"> <li>• Subsidiary</li> <li>1. Korea Housing Management Corporation 100% owned by KNHC</li> <li>• Companies KNHC invested in</li> <li>1. Chungju Enterprise City, Korea National Housing Corporation owns 19.9%</li> <li>2. Korea Construction Management Corporation, Korea National Housing Corporation owns 32.4%</li> <li>• PF(Project Financing)</li> <li>1. Penta Port, Korea National Housing Corporation owns 19.9%</li> <li>2. M Cieta, Korea National Housing Corporation owns 19.9%</li> </ul>
	Main office

## ▼ Regional Head Divisions & New Town Business Head Divisions



Contribution to create joyful and attractive city with realization of housing welfare is our company's goal.

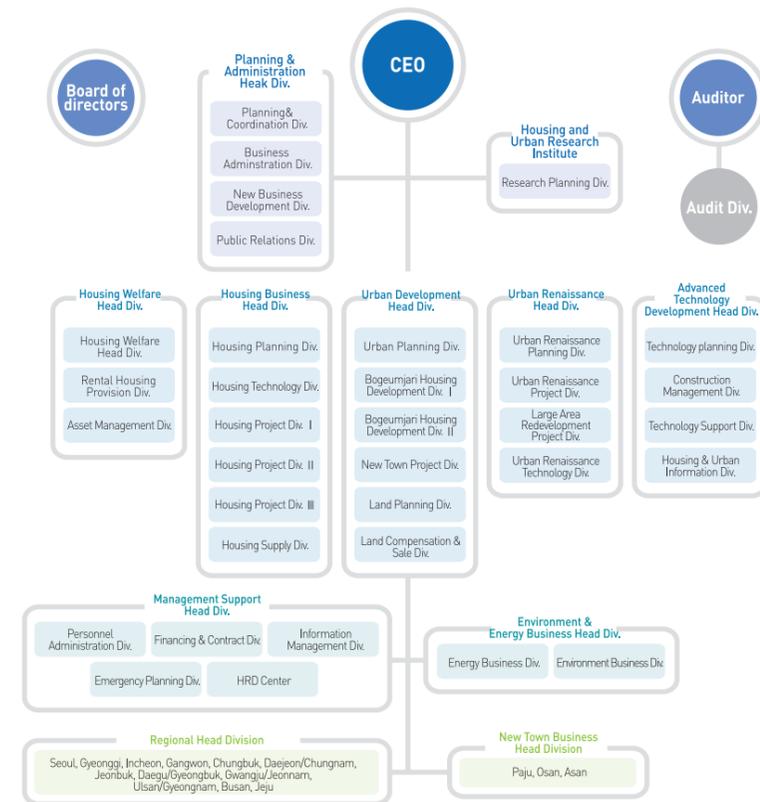
## Founding Purpose

Korea National Housing Corporation was founded under the Act on Korea National Housing Corporation on July 1st, 1962, to build, supply, and manage houses and reform defective houses to stabilize the lives of the people and improve public welfare. In 2008, KNHC became the first construction company which built 2,000,000 houses.

## Organizational Structure

Korea National Housing Corporation is comprised of one main office, 12 regional head divisions, and 3 new town business head divisions. Within the main office, there are 7 head divisions, the Housing and Urban Research Institute, and Environment & Energy Business head division.

## ▼ Organizational Chart (as of January 1, 2009)



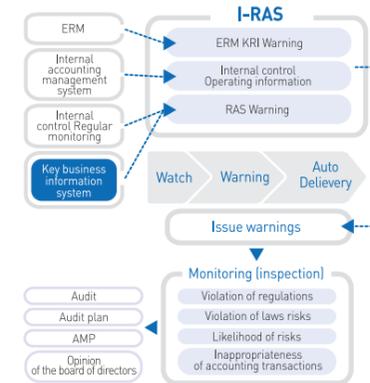
# Corporate Governance



## ▼ Management Evaluation Indexes for Permanent Directors

Classification	Descriptions
Parties to the contract	CEO ↔ executive director
Evaluator	President, internal/external administration evaluation team
Evaluation Indexes	<ul style="list-style-type: none"> <li>• Performance evaluation at headquarters (80)</li> <li>- Relevant government management evaluation index</li> <li>- Original headquarters performance index</li> <li>- Overall management performance</li> <li>• Evaluation of individual performance (20%)</li> <li>- Efforts to implement responsible management</li> <li>- Innovative administration leadership</li> <li>- Integrity evaluation results</li> </ul>
Determination	End of June of the following year
Application of results	Differentiated merit pay system (0-100%)

## ▼ Integrated Real-Time Audit System (i-RAS)



## ▼ Systematization of the Risk Management Organization

Risk Management Organization	Roles
Risk Management Committee	<ul style="list-style-type: none"> <li>• Deliberate and approve risk management policies, standards, etc.</li> <li>• Review the appropriateness of risk management</li> <li>• Organize the counter-risk operations HQ</li> </ul>
Chief Risk Officer	<ul style="list-style-type: none"> <li>• Develop risk management policies and decide on policies</li> <li>• Organize the risk management team and arrange personnel</li> <li>• Evaluate and improve risk management activities</li> </ul>
Enterprise Risk Management Team	<ul style="list-style-type: none"> <li>• Establish enterprise-wide risk management plans</li> <li>• Support and monitoring for individual team risk management activities</li> <li>• Primary evaluation of risk symptoms, coordinate response plans</li> <li>• Supervise the counter-risk operations HQ</li> </ul>
Risk Managers of Individual Departments	<ul style="list-style-type: none"> <li>• Find risk populations by identifying risks</li> <li>• Establish, execute and monitor response plans of individual departments</li> <li>• Grasp risk management status and report to ERM team</li> </ul>

As a government invested company, Korea National Housing Corporation's management performance is being evaluated through government management evaluation conducted every year by the Ministry of Strategy and Finance. KNHC is establishing a sustainable organization through active participation of the board of directors and stakeholders in management.

## Board of Directors

Under the Act on the Management of Public Institutions, KNHC has a total of 15 members in the board of directors consisting of 7 directors on the permanent committee and 8 non-executive members, and the president is its chairman.

## Non-executive directors with independence and professional expertise

The board members, comprised of experts from areas of administration, labor, law, policy, the NGO, media, housing, and urban studies, supervise the whole management activities by participating more than once a month in the board of directors. They deliberate and vote on management goals, budget, and plans. Non-executive directors are nominated by committee composed of external members after considering their independence and expertise by each area.

## Enhanced roles of non-executive directors

Korea National Housing Corporation is offering orientations for early participation in management of non-executive directors by having informal talks with frontline departments, visiting to the local headquarters and the work fields. Also, before the board of directors' meeting is held, non-executive directors hold a session to share information and exchange opinions to hold a meeting efficiently with more correct understanding of the agenda. Furthermore, we offer management information to non-executive directors through various channels.

## Evaluation of board of directors performance

Management status of the board of directors is being evaluated every year by a group of external evaluators during the government's management evaluation period. Our company provides performance-based incentives to permanent directors according to the results of government management evaluation.

## Operation of the Best in Class Risk Management System in the Public Sector

We operate the real-time audit system to respond immediately to risk symptoms of issued warning

## Integrated real-time audit system

The integrated Real-time Audit System (i-RAS) is an advanced idea of real-time audit system. It monitors real-time to prevent accidents, and manages the comprehensive risk management and internal accounting management policies. Korea National Housing Corporation plans to introduce i-RAS from 2009 to advance its risk management level

## Structure of risk management organization

We strengthened our risk monitoring system by clearly defining the role of risk management organization, which includes the risk management committee, ERM team, and staffs in charge of each risk management of each department.

# KNHC's Role for Sustainable Development

## Characteristics of the Housing and Urban Industry

### Locomotive of national economic growth and progress

As an industry for domestic markets that creates social overhead capital, we improve individual productivity through housing stability. This business can create great social ripple effects such as production and employment inducement effect, and a high backward linkage effect.

### Nature as public goods

In a situation where housing inventory is insufficient due to the imbalance between supply and demand from high prices and disparity in supply between regions attributed to the differences in prices by location, the intervention of the public sector is inevitable to prevent market failure.

### Policy business nature

Many countries are directly or indirectly intervening housing industry and market to improve housing level and stability.

### Integration nature

House/City is a compound product that provides various services as resource producing, building, supplying, and managing. It helps creating a class system by making a subcontractor for the duration of construction.

### Dependence on market condition

It highly depends on market conditions because of its high expenses and investment characteristics. Housing industry is frequently used as government strategy to control on construction market.

## Roles of KNHC Since Its Foundation

### Leader for stable growth and progress of housing industry

From its foundation till 2008, KNHC has built 2,000,000 houses, approximately 14.5% of the total houses in Korea, and has been the forerunner in the stable development and growth of the housing industry.

### Expanded foundation for housing welfare

By building 164,000 houses of 50 year rental houses and permanent rental houses in the early 1990s, we have contributed to the solution of housing problems of low-income citizens and classes.

### Leader of systematic urban growth

From Gwacheon new town, the first new town of Korea, to Paju new town being developed as u-City, our active participation in the construction industry has contributed in solving problems regarding the concentration of population and functions to big cities and reinvigorating local economy.

### Executing diverse housing welfare programs

Starting with a million national rental house building policy, our company contributes to low-income families' comfort by providing customized services such as rental/deposit-based house, default rental house, and more.

### Participation of urban renewal business

To restore urban functions, we have been actively participating in urban renewal business that introduce and create new functions to relatively backward cities. We try to minimize the social problems that may occur during the development process by introducing focal point-based redevelopment and cycled renewal method, etc.

### Leader in housing technology

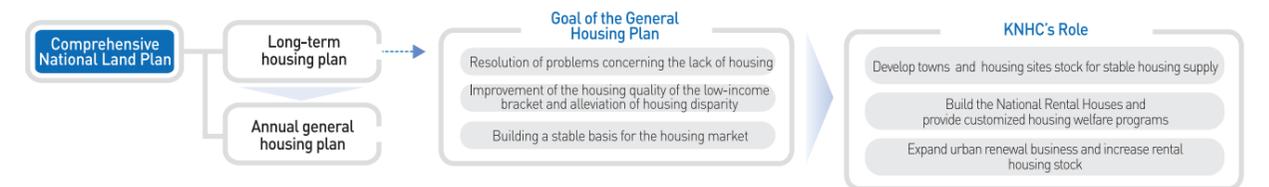
House design/estimate standards, and construction specifications/guidelines that KNHC developed perform as national technology standards. Also, we ensured our company's public trust in housing/urban department by operating housing performance certification bureau, Green Building Certifications agency, and an official KOLAS (Korea Laboratory Accreditation Scheme) testing agency.

### Building Bogeumjari houses

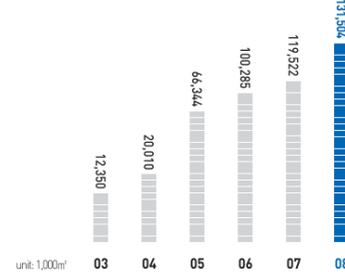
Beginning with 2009 model business for housing stability, KNHC expects to construct 1.3 million (87% of total) Bogeumjari houses by 2018.



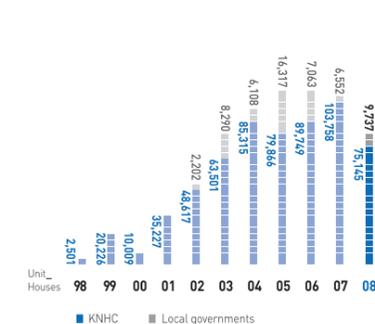
## KNHC's Role in Relation to the Sustainability Development of Korea



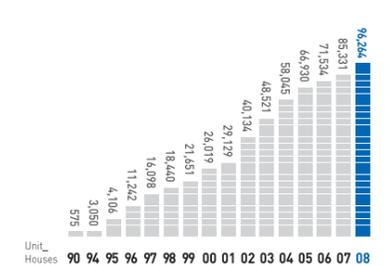
▼ Cumulative Total Outcomes of Housing Site Development Business



▼ The National Rental Housing Supplied



▼ Cumulative Total Outcomes of Residential Environment Improvement Business



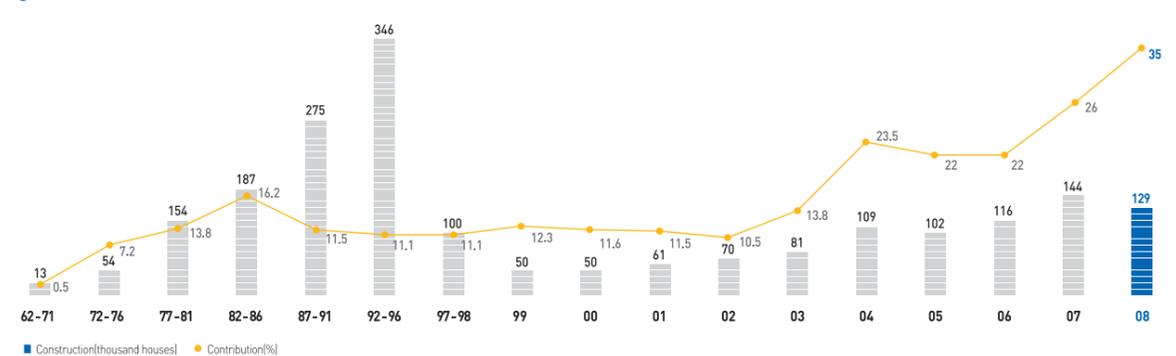
## Korea National Housing Corporation has built 2 million houses

Korea National Housing Corporation, which has contributed to housing stability of the people and improving public welfare through 47 years of housing construction and urban development, was listed on the Guinness Book of Records in 1996 to have built 1 million houses, 12 years later we become the first housing constructor to have built 2 million houses.

2 million houses amount to approximately 14.5% of Korea's total houses, and the number shows that Korea National Housing Corporation has walked the same path with the history of public housing construction.

Korea National Housing Corporation plans to take the lead in building 1.5 million Bogeumjari houses from 2009 to 2018, and will do its best till every houseless family in Korea has their own house as the executor of the government's housing policy.

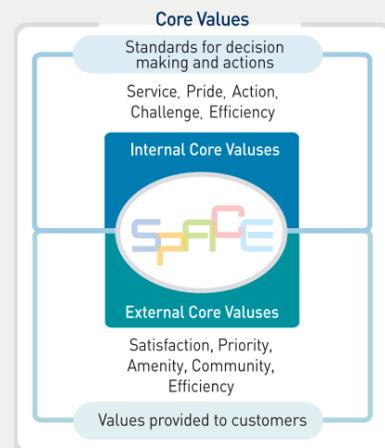
▼ Housing Construction and Contribution of KNHC



# Strategies for Sustainability Management Implementation



### Core Values

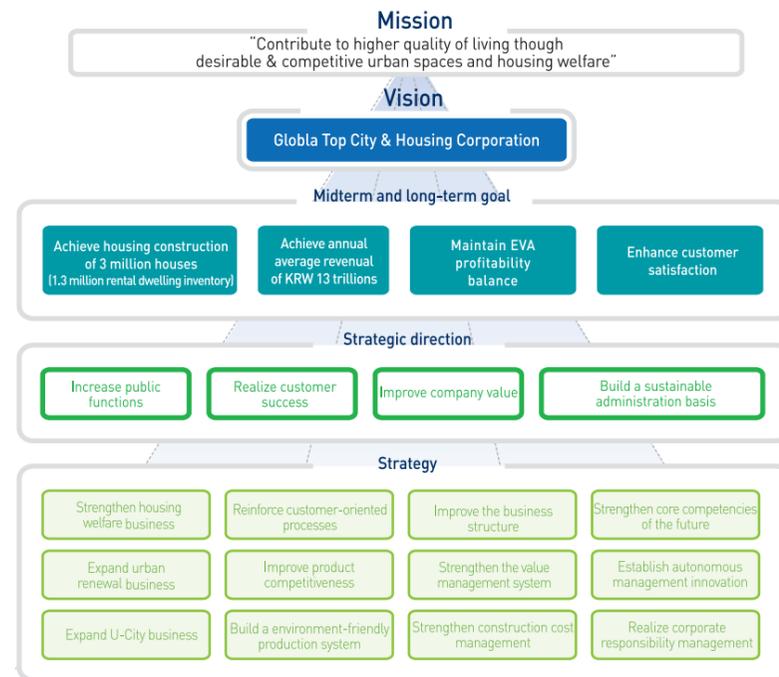


### Feedback of SM Elements to Management



To keep sustainability management as top priority of the corporation, Korea National Housing Corporation supplemented tasks regarding environmentally and socially responsible management to the mid-long-term management strategies in 2007. Also, KNHC is running a performance-oriented strategy system closely connected to the BSC (Balanced Score Card) system.

### Mid-to-Long-Term Vision and Strategy



Korea National Housing Corporation established a vision, 'Global Top City & Housing Corporation' and selected mid-long-term management goals and 4 strategic directions. Following 4 strategic directions, we have also presented 12 strategic tasks and 23 practical tasks, and is building and running an executive system to accomplish our vision. KNHC identified tasks necessary for accomplishing our mission and vision essential for sustainability management, and included them in the 12 strategic tasks and 23 practical tasks, thereby laying the foundation for realizing sustainability management within the framework of mid-to-long-term management strategies.

### Sustainability Management System

Sustainability management activities of Korea National Housing Corporation's sustainability management are being carried out by the office of Planning & Coordination Division, and various activities related to the economy, society, environment, and climate change are being carried out by each department.

### Main outcomes of sustainability management- Selected as an outstanding report by the UN Global Compact COP

KNHC's 'Sustainability Report 2006' was selected as UN Global Compact 2008's 'notable COP'. UNGC noticed our company's ethical management and performance as superior. This outcome became an opportunity to let the global stakeholders know that KNHC complies with 4 global standards of human rights, labor, environment, and anti-corruption. KNHC will hold up our ends to be globally responsible as a member of UNGC.

### Sustainability Indicators

Category	KPI	Unit	'06	'07	'08
Economy	National rental housing construction	house	89,749	103,758	75,145
	Correction rate of checklist items before occupation	%	97.60	97.77	96.52
	Labor productivity	KRW 1 million/person	384	550	535
	Rent level of the National Rental Housing <sup>1)</sup>	%	72	70	69
	Job creation for rental housing tenants	person	2,836	2,449	2,660
Environment	Contributed acceptance	KRW100 million	2,223	3,020	11,748
	Green Building Certification performance	house	16,039	19,400	10,620
	Solar power housing supply	house	2,962	4,307	5,627
	Housing performance rating certifications	complex	2,164	5,900	19,761
	No. of patented environment-friendly technologies	case	7	5	3
	Construction waste recycling rate	%	89.4	93.0	95.3
	Green purchasing amounts <sup>2)</sup>	KRW1,000	1,709,482	1,217,076	1,128,925
	Energy consumption of the main office and regional headquarters	GJ	83,684.3	94,674.6	105,692.6
	Greenhouse gas emissions of main office and regional headquarters	CO2 tons	7,989.3	10,311.2	10,603.3
	Research contracts received	KRW100 million	8,770	13,500	9,266
Society	Average number of training sessions per person	number		6.5	8.9
	Loss days <sup>3)</sup>	day	1,247	1,280	1,895
	Satisfaction levels of employees	point	3.66	-	3.68
	Rate of investment to social contribution (against sales)	%	0.06	0.10	0.05
	Resettlement of original residents	%	45	43	37
	Ratio of senior female employees	%	1.47	1.71	2.13
Ratio of disabled employees	%	2.00	1.93	2.05	
Integrity evaluation by the Korea Independent Commission against Corruption	point	8.38	8.81	7.43	

<sup>1)</sup> % rent against deposit-based rent in the market (down payment and rent are converted into deposit)  
<sup>2)</sup> Purchasing costs of environment-friendly office supplies, lighting fixtures, paper and furniture directly purchased by KNHC  
<sup>3)</sup> Number of days on sick leave of employees

### KPI adjustment

- <sup>①</sup> Deleted KPI – brand recognition, results of innovation evaluation, ration of acquisition of construction company ISO 14001, satisfaction survey of suppliers
- <sup>②</sup> Changed KPI – satisfaction of employees → survey was conducted with work satisfaction, a superior concept to remuneration satisfaction
  - number of hours of training per person → average number of training sessions per person
  - investment ratio of local communities → contributed acceptance
  - number of environment-friendly patent applications → number of environment-friendly patents
- <sup>③</sup> Added KPI – energy consumption of the main office and regional headquarters, greenhouse gas emissions

### Undisclosed reason for climate change performance indicator

It was not included in current mid-long term strategy to concentrate upon the subject for the next business term. KNHC will reestablish its strategy including climate change performance indicator in 2009.

# Stakeholder Management

## ▼ Stakeholders of Korea National Housing Corporation



## ▼ Profile of Materiality Test of GRI Performance Indicators

- Target**
  - 35 stakeholders including the government, local governments, NGO, the media, the National Assembly, and construction companies were surveyed.
- Method**
  - By visit or via email
- Description**
  - The importance of GRI 79 performance indicators was investigated (See items in the appendix)
- Application Plan**
  - Indicators of high importance in each category (economy, society, environment and climate change) will be given the priority in performance disclosure in DMA.

## Definition of a Stakeholder

The Prime Minister of Germany Angela Merkel said, "you should be alone to go faster, but you should be together to go further" at Forum, Davos, 2006. Her emphasis on cooperation with stakeholders was to develop a more sustainable world. KNHC understands today's sustainable management can be successful with stakeholder cooperated management. Our company announced a cooperation with government, local autonomous entities, national assembly, and customers, and pays attention to media and NGO's opinions.

## Stakeholders of Korea National Housing Corporation

Korea National Housing Corporation, as an affiliated organization to the Ministry of Land, Transportation, and Maritime Affairs, is in charge of carrying out housing and urban policies to fulfill the future vision of the country. In this process, the key stakeholders of KNHC are the government, who establishes housing and urban policies, customers and constructors, who are the targets of the policies, the local governments (local public corporations), who are the targets and executor of the policies, and the media and NGO, who supervise the policies. Furthermore, improving the satisfaction of internal employees is directly connected to the efficiency of the company, so employees are an important stakeholder.

## Stakeholder communication

By running various communication channels such as informal talks, forums, and meetings according to the characteristics of the stakeholder, Korea National Housing Corporation is, regularly and irregularly, collecting the opinions of stakeholders.

When re-establishing the mid-long-term management strategies in 2007, KNHC established the visions and strategies on the direction the corporation must pursue by reflecting them, and clearly stated the values the corporation wants to provide by clarifying our future goals and KNHC's unique business areas.

Especially, through the mission of 'contribute to improving the quality of life by creating a livable and competitive urban space and housing welfare,' we declared our reason of existence as a public welfare organization and our will to provide the best service in the housing and city urban areas.

## Participation of Stakeholders

KNHC collected previously stated stakeholders' opinions to grasp and state the issues in this report. We also executed a research on importance of GRI Index and main issues of KNHC's sustainability management. Survey and depth interview of the stakeholders were the main methods for this research.

## Materiality test of GRI performance indicators

GRI G3 Guideline requires corporations to announce 79 performance indicators for the areas that must be considered for sustainability management such as the economy, society, environment, and climate change, and to select the priorities in reporting considering the situations of each company.

This report was written under the principles of the GRI G3 Guideline, so a materiality test for 79 performance indicators were conducted to select the report priorities.

For the understanding of the stakeholders, each indicator was interpreted fit to the situations of Korea National Housing Corporation.

The results for the materiality test of the economy, society, environment, and climate change can be found in DMA(Disclosure on Management Approach) 1, and main outcomes of 2007-2008 are provided.

1) DMA(Disclosure on Management Approach) : GRI Guideline stipulates that key performances and future plans be specified.



## ▼ Profile of Awareness on Key Issues of Sustainability Management

- Target**
  - 35 stakeholders including the government, local governments, NGO, the media, the National Assembly, and construction companies were surveyed.
  - Among them the Ministry of Land, Transport and Maritime Affairs, Gyeonggi-do, the Korea Federation for Environmental Movement, and Hankyoreh Newspaper were interviewed as well.
- Method**
  - External stakeholders : by visit or via email
  - Internal employees: through the intranet system
- Description**
  - Internal and external awareness of 23 tasks was investigated.
  - KNHC and the agencies surveyed were inked in the questions.
- Application Plan**
  - Analysis of the survey showed differences in awareness between internal and external stakeholders, and management directions will be linked.
  - Ways to improve differences in awareness were sought
  - KNHC's current status and future plans in relation to the awareness and interview results were introduced.

➔ Response rate for employee survey was 35%.

## Investigation of awareness of key issues of sustainability management

Korea National Housing Corporation has included TBL<sup>2)</sup> factors to the mid-long-term management strategies, and is running sustainability management as the core business of the corporation. The opinions of the internal and external stakeholders of strategic tasks were collected, and to announce mainly outcomes and plans for the main issues in this report. We carried out awareness surveys and interviews for the main stakeholders.

Survey and interview results will be reflected in the main businesses and the management directions of Korea National Housing Corporation. The results of the awareness survey on main issues can be found in the analysis results and significance on the next page.

2) TBL(Triple Bottom Line) : three axes of sustainability management: economy, society and environment

## Stakeholder Awareness Survey

Survey is consisted of 3-step awareness inquiry by grouping 23 management strategic tasks and the climate change issue into 4 categories(economy, environment, society, climate change).

Step 1: Understanding the importance of each department's issue Step 2: KNHC's outstanding responses Step 3: KNHC's insufficient responses Each process is as shown below.

Strategic Direction	12 Strategic Tasks	23 Practical Tasks
Increase Public Functions	Strengthen housing welfare business	<ul style="list-style-type: none"> <li>Provide sustainable rental housing</li> <li>Diversify housing welfare programs</li> <li>Expand metropolitan rental housing management</li> </ul>
	Expand urban restoration business	<ul style="list-style-type: none"> <li>Promote downtown and metropolitan development business</li> </ul>
	Expand U-City business	<ul style="list-style-type: none"> <li>Expand U-City business</li> </ul>
Realize Customer Success	Reinforce customer-oriented processes	<ul style="list-style-type: none"> <li>Build a customer relationship management system</li> <li>Innovate the A/S system</li> <li>Build the brand image</li> <li>Build the enterprise-wide quality management system</li> </ul>
	Improve product competitiveness	<ul style="list-style-type: none"> <li>Develop environment-friendly materials and technologies</li> <li>Manage eco-efficiency of construction sites</li> <li>Build the environment-friendly planning system</li> </ul>
	Build a environment-friendly production system	<ul style="list-style-type: none"> <li>Identify new business</li> </ul>
Improve Company Value	Improve the business structure	<ul style="list-style-type: none"> <li>Reinforce EVA management</li> </ul>
	Strengthen the value management system	<ul style="list-style-type: none"> <li>Strengthen the VE system</li> </ul>
	Strengthen construction cost management	<ul style="list-style-type: none"> <li>Train core business experts</li> <li>Strengthen R&amp;D skills</li> <li>Strengthen policy-leading skills</li> <li>Strengthen infrastructure for execution of strategies</li> <li>Establish new performance-based personnel system</li> <li>Establish 6-Sigma</li> </ul>
Build the Infrastructure for Sustainability Management	Strengthen core competencies of the future	<ul style="list-style-type: none"> <li>Strengthen social contribution activities</li> <li>Strengthen ethical management activities</li> </ul>
	Establish autonomous management innovation	
	Realize corporate responsibility management	
Response to Climate Change		<ul style="list-style-type: none"> <li>Creating green space</li> <li>Research and development to reduce greenhouse gases</li> <li>Management of climate change response</li> </ul>

■ Economy ■ Environment ■ Society ■ Climate change

# Stakeholder Management



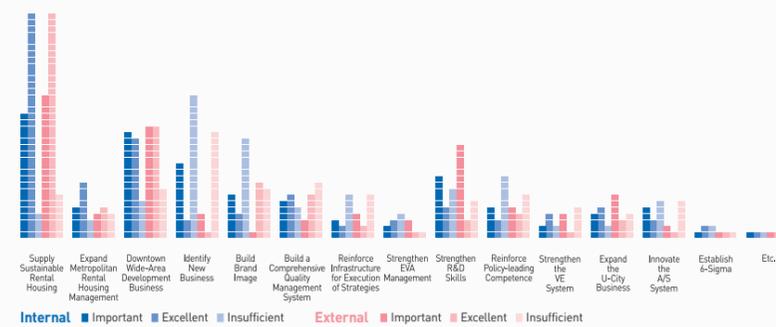
## Survey Results on the Main Issues of Sustainability Management

The survey results are mentioned in this report, and will be used as important data when establishing the future mid-long-term management strategies.

### Summary of the awareness survey on the economy area

- We surveyed the internal and external stakeholders about the businesses we are involved in as a public agency, such as sustainable supply of rental housing and urban development business. The result showed a high level of awareness of their importance and excellence.
- The internal stakeholders regarded 'identification of new businesses' as an important issue, while they thought KNHC was insufficient in responding to it. They also said the competitiveness should be improved through business diversification and brand promotion.
- The external stakeholder said KNHC was insufficient in view of the importance of 'reinforcement of R&D competences,' and showed a greater awareness of 'urban development business' at all levels. This is believed to be due to the increasing demands in the business and management area regarding urban development

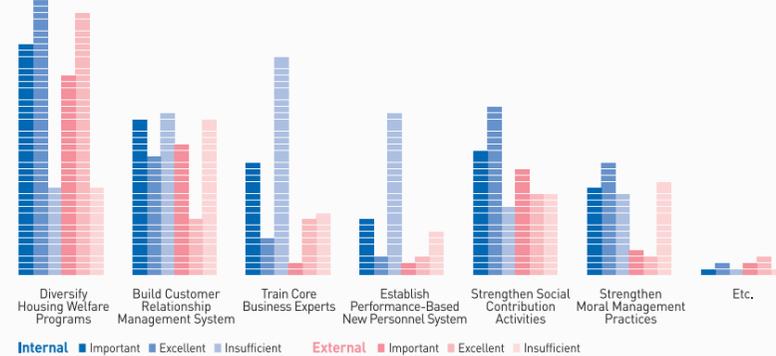
#### Economy - Awareness of Internal/External Stakeholders



### Summary of the awareness survey on the society area

- Both internal and external stakeholders showed a high level of awareness of the importance and excellence of diversification of housing welfare programs, Korea National Housing Corporation is focusing on.
- The internal stakeholders said 'core business expert training' and 'establishment of the performance-based new HR system' need to be improved in the organization and employee training area. Reinforcement of internal competitiveness was greatly needed.
- The external stakeholders thought highly of providing convenience to and managing customers, and said the management system is not effective. KNHC's businesses need to be more customer-oriented.

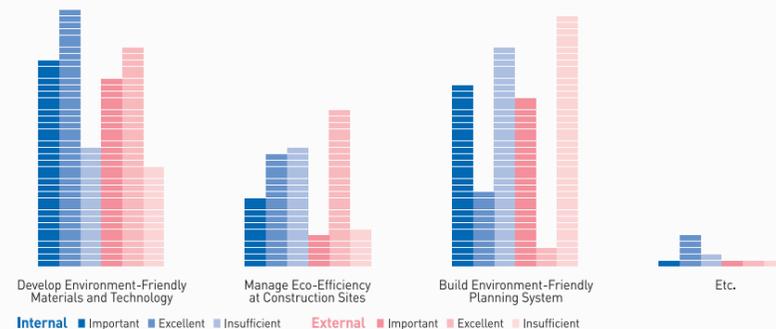
#### Society - Awareness of Internal/External Stakeholders



### Summary of the awareness survey on the environment area

- Both internal and external stakeholders were aware of the necessity of environmental management in construction sites.
- The internal stakeholders have a greater consensus about the need for environmental management in construction sites, e.g. 'building the environment-friendly planning system,' and 'managing the eco-efficiency of construction sites.'
- The external stakeholders showed a higher level of awareness on the 'development of environment-friendly materials and technologies' at all levels. As interest in green buildings is rising, the importance of this issue is increasing as well.

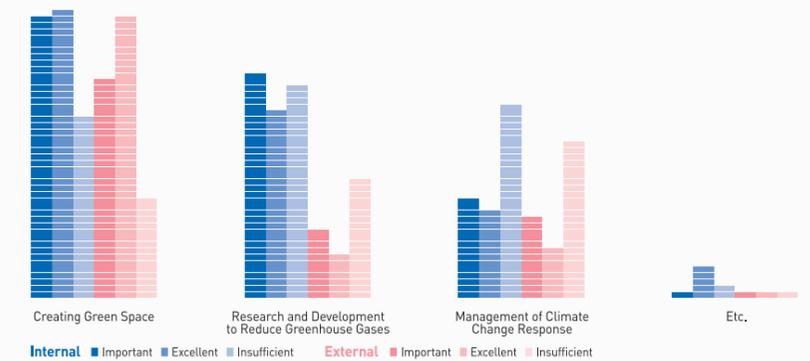
#### Environment - Awareness of Internal/External Stakeholders



### Summary of the awareness survey on the climate change area

- Both internal and external stakeholders considered responding to climate change in terms of business and sites important.
- As the request for improving Korea National Housing Corporation's ability to respond to climate change for green growth, and for low-carbon management in sites and offices, it seems necessary for KNHC to establish a model for responding to climate change.

#### Climate change - Awareness of Internal/External Stakeholders



## Connection Between Report and Survey Results

Using the awareness survey results, we selected the main report items in this report. The response rate for the 'importance,' 'excellent response,' and 'insufficient response' of each issue were divided into High, Medium, and Low, and the outcomes and future plans for issues that showed a response rate higher than 'Medium' are reported on related page. The evaluation result for each sector is presented in the introduction section as 'Sustainability Navigator' and the selected indices are indicated with an icon ( : Sustainability Navigator) in the main body to provide reference to the stakeholders.

Reporting Standard	High	Middle	Low
Response rate <sup>1)</sup>	More than 20%	10% - 19%	0% - 9%

<sup>1)</sup> Response rate: % of those who answered out of the total surveyed

Category	Sustainability Management Issue	Awareness Survey Results						Page	
		Important		Excellent		Insufficient			
		Response rate	Standard	Response rate	Standard	Response rate	Standard		
Economy	Supply sustainable rental housing	20.8%	High	36%	High	5%	Low	20	
	Expand metropolitan rental housing management	5.5%	Low	9%	Low	4%	Low	Excluded from report	
	Downtown wide-area development business	17.5%	Middle	16%	Middle	6%	Low	26	
	Identify new business	11.8%	Middle	2%	Low	23%	High	29	
	Build brand image	7.0%	Low	5%	Low	16%	Middle	30	
	Build a comprehensive quality management system	6.2%	Low	7%	Low	6%	Low	Excluded from report	
	Reinforce infrastructure for execution of strategies	3.4%	Low	1%	Low	7%	Low	Excluded from report	
	Strengthen EVA management	1.7%	Low	2%	Low	4%	Low	Excluded from report	
	Strengthen R&D skills	10.0%	Middle	5%	Low	8%	Low	30	
	Reinforce policy-leading competence	5.1%	Low	3%	Low	10%	Middle	30	
Environment	Strengthen the VE system	2.1%	Low	4%	Low	2%	Low	Excluded from report	
	Expand the U-City business	3.8%	Low	5%	Low	2%	Low	Partially explained in business description(p.25)	
	Innovate the A/S system	4.4%	Low	2%	Low	6%	Low	Excluded from report	
	Establish 6-sigma	0.4%	Low	1%	Low	1%	Low	Excluded from report	
	Develop environment-friendly materials and technology	43.8%	High	53%	High	27%	High	36	
	Manage eco-efficiency at construction sites	16.0%	Middle	25%	High	25%	High	40	
	Build environment-friendly planning system	39.8%	High	18%	Middle	46%	High	37	
	Society	Diversify housing welfare programs	31.6%	High	39%	High	12%	Middle	53
		Build customer relationship management system	19.6%	Middle	15%	Middle	20%	Middle	55
		Train core business experts	14.1%	Middle	5%	Low	28%	High	62
Establish performance-based new personnel system		7.2%	Low	3%	Low	21%	High	63	
Strengthen social contribution activities		16.0%	Middle	22%	High	9%	Low	52	
Climate change	Strengthen moral management practices	11.5%	Middle	14%	Middle	10%	Low	50	
	Creating green space	45.9%	High	47%	High	30%	High	68	
	Research and development to reduce greenhouse gases	36.5%	High	31%	High	35%	High	70	
Management of climate change response	17.4%	Middle	15%	Middle	32%	High	42, 44		



## Turning Space into a Joyful House

We built houses in empty place  
In this place reborn with a new name 'house',  
People dream of their future.  
Making a house into a better place to live,  
That is our calling.



Creating Sustainable Space | Turning Space into a Joyful House

### The Space of a livable town

Asan Complex - Pentaport

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# Disclosure on Management Approach

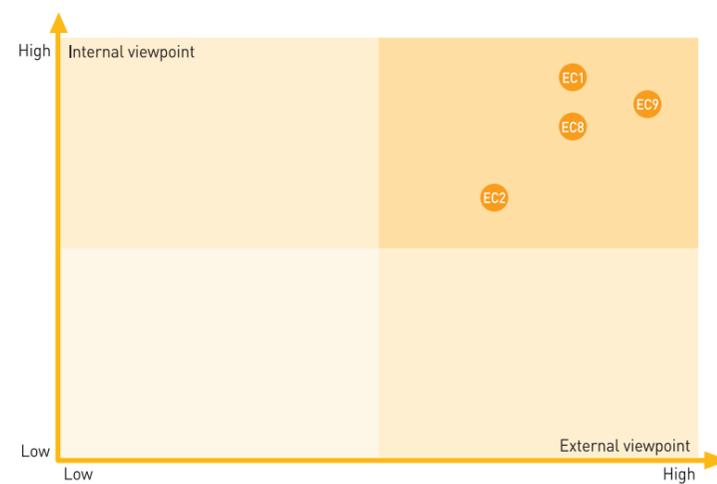
## Economic mission of KNHC

Korea National Housing Corporation carries out a series of housing and urban businesses, such as the construction, supplying, and management of public houses and the creation and maintenance of cities, consigned from the government or the local governments. These are the essential businesses of KNHC. We will efficiently conduct the businesses to stabilize the housing market, stabilize the housing of low-income families, support housing services for the needy, and create urban space capable of raising the quality of life, thereby maximizing the social value added.

## Core performance indicators chosen by stakeholders

GRI G3 Guidelines provide 9 economic performance indicators including direct economic effect. As a result of a survey on the internal and external stakeholders, 4 indicators, direct economic effect, indirect economic effect, the financial effect of climate change, and the investment in social infrastructure, were selected as the most important indicators that will contribute to the sustainable development and growth of Korea National Housing Corporation.

## Economy Performance Indicators



## 2008 Performance by Major Performance Indicator

[EC1]Direct economic effect: our sales were approximately KRW 7 trillion in 2008, and we spent about 94% of sales for operating costs (cost of sales, distribution costs, and management expenses).

[EC2]Financial effect of climate change: We seek for energy-efficient methods to use land through green homes, green complexes, and green cities, and are reflecting sustainable R&D in our plan, and construction. In the case of Euijeongbu Minrak district 2, we are currently creating an energy-saving complex, and we plan to actively utilize the idea of green home when building the Bogeumjari houses after 2009 to set an example for the domestic industry. Also, the Incheon Nonhyeon district expects a profit of KRW 16.5 million for the next 10 years through the District heating business using CDM (Clean Development Mechanism).

[EC9]Indirect economic effect: the economic ripple effects following the construction of the National Rental Houses in 2008 are KRW 5.5 trillion for national rental construction investment, 18.2 trillion for contribution to economic growth, KRW 13 trillion for production inducement, KRW 1.1 trillion for employment inducement, and KRW 1.4 trillion for job inducement. Furthermore, we have reduced a total of KRW36.4 million in housing expenses for 386,000 houses by freezing rents for rental houses.

[EC8]Social infrastructure investment: KRW 1.268 trillion, 8% of the KRW 13.3969 trillion of working expenses we expended for urban and housing site development from 2007 to 2008, was spent as investments in main facilities like waterworks, sewage, roads, power and gas.

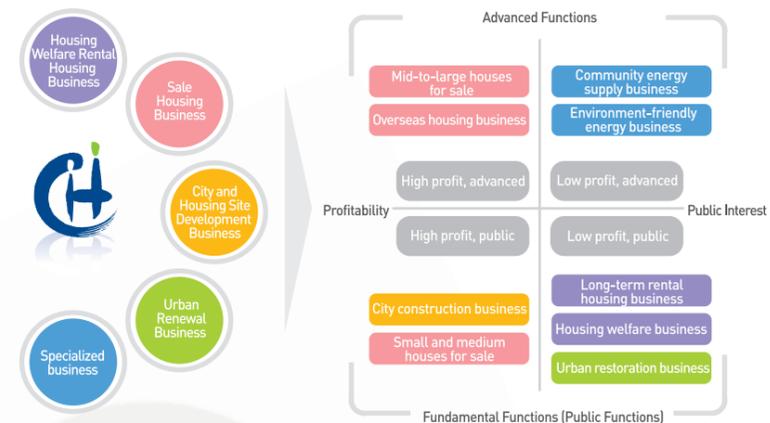
## Strategies approach to the economic mission

As the object economy is contracting due to the global financial crisis, an economic slump in the domestic housing market is becoming reality. The private construction sector is decreasing, unsold houses are increasing, housing purchasing power is decreasing due to the increase in mortgage rates, and opportunities to own a house for houseless families are getting smaller. To tackle the situation, the government is presenting the measures to stabilize the housing market through the policy of 'Bogeumjari house'. To follow the government's policies and the founding purpose of the corporation, Korea National Housing Corporation is planning to actively use its abilities and now-how that have accumulated over the years of constructing houses and cities, and carrying out housing welfare business.

KNHC will play a leading role in the Bogeumjari housing business, which is the government's core housing policy, and while contributing to the housing stability of the low income classes by constructing the national rental houses and permanent rental houses, we will meet the need of houseless families to have their own houses by building small and medium-sized houses for sale. Furthermore, our company will build more long-term public rental houses, continuously carry out housing welfare programs including multi-unit tenement purchased rental, default home rental and deposit-based rental, and will regulate the housing market through public housing development and supply of houses for sale. Along with this, by leading city and housing site development business and urban renewal business, we are inducing the improvement of urban competitiveness and the reinvigoration of the local economy. KNHC will carry out technology development to lead housing technology of Korea, and we also continuously support the government's housing and urban policies. To improve the efficiency in carrying out these public businesses, in 2007 we reshuffled our internal organization to the business division system, and introduced the management system which clearly stipulates responsibilities and rights.

Korea National Housing Corporation will harmoniously promote the businesses that have potential to grow and essential businesses in order to keep profitability and public benefits of the main businesses in balance, and grow to be the "world's best housing and urban corporation" to constantly create direct and indirect economic values.

## Major Business Areas and Business Portfolio



## Interview with the external stakeholder \_ Jong-Sik Huh, the senior reporter of Hankyoreh news

### • Maintaining the identity of a public corporation

Although the original responsibility of Korea National Housing Corporation is to realize housing welfare of houseless families, many people see KNHC as a general corporation that makes profit as a private constructor. Making profit and allocating business expenses by supplying houses for sale leads to a business structure in which cross-subsidization is inevitable, but I think that KNHC must not lose its identity as a public corporation.

There are predictions that housing demand will decrease after 2015 due to the decrease in the absolute number of households. Following this, I expect to see a decrease in business outcomes due to the fall in demands on houses for sale or land for sale. Eventually, Korea National Housing Corporation must maintain a business structure that emphasizes its public benefits through the rental housing business, and the business structure must be reorganized to emphasize the public benefits of the strategic roadmap.

### • Need for housing and urban development with harmony

As in the case of the public development in the Seongnam Pangyo district, we must strike a golden balance between the advantages of the private sector (state-of-the-art design, etc.) and the public nature (supplying houses at 80% of market price), and create more opportunities to gradually remove the preconceived ideas against KNHC's apartments, and there must be efforts to create apartments that harmonize with the surrounding environment.

# Successful Core Business

### ▼ 2008 Outcomes of the Specialized Business Utilizing Rental Housing

Supply New Customized Rental Housing	• Supply Bogeumjari housing for newlyweds (national rental) first to newlyweds (10,054 houses in 48 districts)
	• Supply the National Rental Housing for the elder only (79 houses in GimjHadong)
	• Supply rental housing for North Korean defectors (1,337 houses) and Korean residents in Sakhalin (310 houses)
	• Provide national rental, purchase rental, deposit-based rental and administered housing for cubicle residents (118 houses) and vinyl house residents (214 houses)

## Housing Welfare, Rental Housing Business\_we hope that people can live without worrying about housing

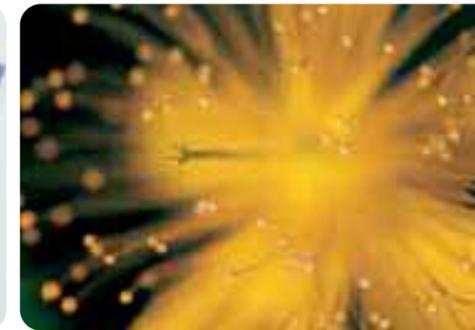
Korea National Housing Corporation provides customized rental houses such as multi-unit tenement housing, deposit-based rental housing of existing houses, deposit-based rental housing for juvenile heads of households that consider the characteristics of the user, and is concentrating on the public projects to realize housing welfare by supplying approximately 600,000 National Rental Houses till the end of 2008.

### ▼ Outline of Housing Welfare and Rental Programs

<b>Construction Rental Housing</b>	The National Rental Housing, Permanent rental housing, 50-year rental housing, Public rental housing
<b>Purchased Rental Housing</b>	Multi-unit tenement houses, Default rental housing, Unsold rental housing, Reconstruction rental housing
<b>Deposit-Based Rental Housing</b>	Deposit-based rental housing for the needy, Deposit-based rental housing for newlyweds, Deposit-based rental housing for juvenile heads of households
<b>Specialized Business Utilizing Rental Housing</b>	Rental housing for the elderly, Support for residents of cubicles and vinyl houses, Group home rental, Emergency housing support for the vulnerable class
<b>Main issues and plans</b>	<ul style="list-style-type: none"> <li>• Find ways to supply inexpensive rental housing by saving working expenses</li> <li>• Expand the supply of mid-to-large rental housing featuring low rents</li> <li>• Build a versatile cooperative system with the local governments and social organizations</li> </ul>

### ▼ Key Outcomes of the Housing Welfare and Rental Business

Classification		Before 04	05	06	07	08
Construction Rental	National rental	264,893	75,455	82,216	83,102	64,896
	10-year rental	880	4,064	4,648	11,020	12,549
Purchase Rental	Multifamily purchase rental	503	4,411	6,059	6,100	6,545
	Deposit-based rental	-	654	5,277	5,811	7,189
	Deposit-based rental support for juvenile heads of households	-	1,504	1,036	1,019	1,020
	Default rental	-	-	1,474	14,556	4,291
	Unsold purchase	-	-	-	-	5,028
	Reconstruction purchase	-	-	-	5,679	170
<b>Total</b>		<b>266,276</b>	<b>86,088</b>	<b>100,710</b>	<b>127,287</b>	<b>101,688</b>



### Key outcomes and future plans of housing welfare and rental housing Business

From 2003 to 2007, Korea National Housing Corporation has built the basis for the housing welfare policies by building or purchasing 742,104 rental houses, approximately 80% of the total 934,210 long-term rental housing stock planned by the government.

Also, while we diversified the welfare services of low income residents by securing financial resources to improve the housing environments of rental houses, we have been working to reinvigorate the cooperative network.

Through our rental houses and customized housing welfare programs, the quality of the housing welfare business has improved, and the level of welfare services is rising.

KNHC plans to supply various types of rental houses based on the demand by region and class, and strengthen the Housing welfare, rental housing Business by running more diverse housing welfare programs. Also, we are planning to build a self-support basis through the "integrated welfare service" which integrates housing and social welfare.

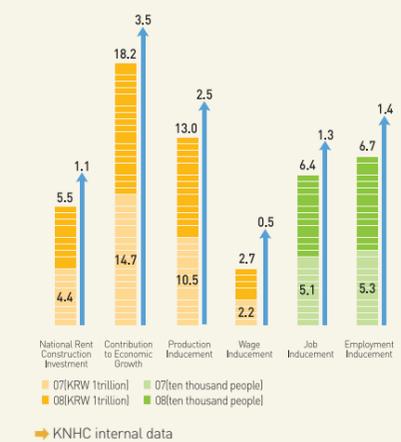
For this purpose, KNHC invested KRW 8,730.6 billion in 2008. In 2009, we increased the budget to KRW 12,165.2 billion, KRW 3,434.6 billion more than the previous year, thereby solidifying the foundation for this business.

### ▼ Long-Term Rental Housing Inventory

Classification	(Unit : House)		
	Government Plan	KNHC Actual	%
Permanent rental	190,077	140,078	73.7
National rental (including multiunit tenement and default)	585,301	538,769	92.0
Deposit-based rental Support for juvenile heads of households	15,911	15,301	95.7
Others including 10-year rental	142,841	47,956	33.6
<b>Total</b>	<b>934,210</b>	<b>742,104</b>	<b>79.4</b>

➔ Based on construction permits

### ▼ Production Inducement Effect of the National Rental Housing Construction(2008)



### Indirect economic effects of the National Rental Housing

The monthly rent of the National Rental Houses is lower than monthly rental residents. In particular, the monthly rents for small houses (31-35m<sup>2</sup>) are 1/3 of those of the same size houses. The lower rents of Korea National Housing Corporation is helping the low income tenants of monthly rental houses.

Through the construction of national rental houses, Korea National Housing Corporation has created indirect economic effects in areas such as production, employment, wage, etc. The estimated economic effect through the construction of the National Rental Houses is KRW 18.2 trillion.

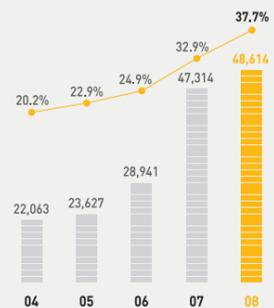
### ▼ Comparison of Housing Expenses Between the National Rental Housing and other Housing Types

Area Type	Apartment	All Houses	National Rental	Monthly Rent for the National Rental Housing	
				Compared to Apartments	Compared to all Houses
31 - 35m <sup>2</sup>	184,522	190,071	62,550	33.9%	32.9%
36 - 45m <sup>2</sup>	188,100	191,874	101,725	54.1%	53.0%
46 - 59m <sup>2</sup>	170,396	205,453	151,706	89.0%	73.8%

➔ The monthly rents of guaranteed monthly rental, monthly rental tenants, excluding deposit-based rental housing residents, according to 2007 Census (Korea National Statistical Office), were compared with the monthly rents of the National Rental Housing.  
 ➔ Source 1. Korea National Statistical Office, 2007 Census  
 2. KNHC internal data

# Successful Core Business

### ▼ No. of Houses for Sale Built Classification



● Total KNHC-built houses vs. construction of houses for sale

### Houses for Sale—we supply high-quality houses at a low price

Houses qualitative but lower than the market price provide opportunities for houseless families to own a house, and fulfills the demands for small and medium-size houses for sale. Also, this way, we will be able to contribute to the stabilization of the housing market by keeping the private-centered sale house market in check.

#### ▼ Sale prices of key complexes in the metropolitan area (ration of market price) - Sale districts 2008

Name of District	No. of supplied houses	Sale Price (per 3.3m <sup>2</sup> )	Market Price (per 3.3m <sup>2</sup> )	Ratio of Market Price
Euiwang/Cheonggye	266	10,962	15,322	72%
Gwangmyeong Station Impact Area	1,527	9,891	12,334	80%
Gwangmyeong Soha	1,310	10,668	12,830	83%
Ansan Singil	866	7,318	8,500	86%

[Unit : KRW1,000]

#### Key outcomes and future plans

##### | Widening housing options by supplying various house type |

By providing different types of housing to meet customers' needs, people can now widen their choices for housing options.

##### • Increasing the number of small houses for sale

We increased the originally planned number of small houses for sale, intended for small house consumers, from 2,000 to 15,000 in 2008.

##### • Installment housing

We provided 'installment houses' taking consideration of consumers' ability to buy a house in 2008, and achieved a great success. 91% of the houses was sold despite the slump of the real estate market.

##### • Adopting the housing subscription system based on advance reservation

In 2009 we introduced the 'advance reservation housing subscription system,' so that consumers can select the time of move-in, sale prices and location and make necessary preparations in advance. We are planning to apply this system starting with Bogeumjari housing.

##### • Complex-type multifamily houses

Multifamily houses smaller than 85m<sup>2</sup>, scattered in small patches, will be grouped together (20-149 houses in one group). The 'complex-type multifamily housing' business is slated to kick off in the second half of 2009.

##### • Han-style apartments

In connection with the Ministry of Land, Transport and Maritime Affairs' 'Global Hanok (traditional Korean house)' business, we will develop Hanok designs for apartments in 2008, and build 730 pilot units in Siheung Mokgam in 2009.

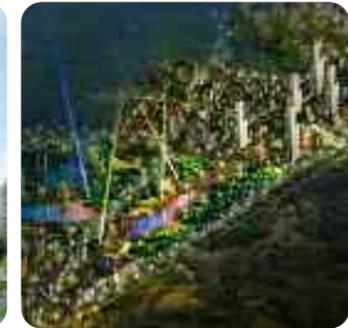
##### | Reducing sale prices |

As the economic slump is prolonged, measures for stabilization of the housing market is needed more than ever. Korea National Housing Corporation established a strategy for supplying high-quality houses at a low price to proactively cope with the needs of customers and society. We are trying to reduce costs by lowering sale prices, and planning to cut down sale prices by 15% between 2008 and 2010.

##### Funding housing welfare with revenues from houses for sale

Korea National Housing Corporation is utilizing the revenues from houses for sale to fund the housing welfare of the vulnerable classes, thereby improving the quality of life of people.

### ▼ Han-Style Complex



## Bogeumjari Houses *new*

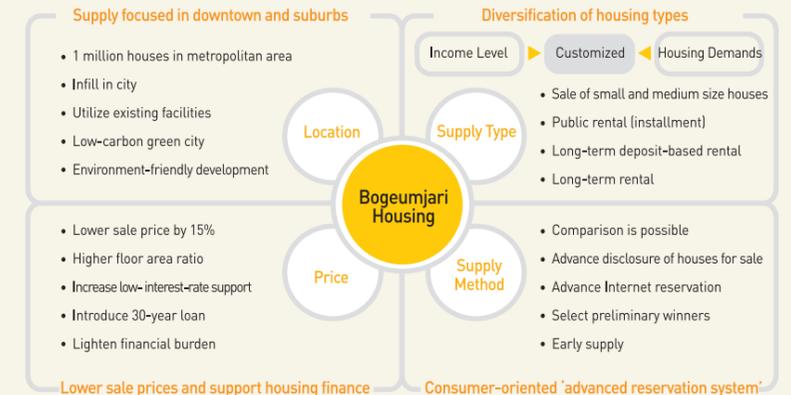
Bogeumjari house is a kind of residence that is built by public service in areas near to metropolis, such as downtown or greenbelt. It has a relatively low priced housing type so that low-income families can also pay for. It is one of current government's core housing policy.

The number of houses that will be supplied from 2009 to 2018 is 1,500,000 (1 million in the metropolitan area, and 0.5 million in the country), and we plan to build approximately 150,000 houses smaller than 85m<sup>2</sup> per year: 800,000 rental houses and 700,000 houses for sale. Korea National Housing Corporation will be in charge of about 1.3 million of the total.

#### ▼ Bogeumjari House Supply Plan



#### ▼ Advantages of Bogeumjari Houses



### Development Direction of Bogeumjari Housing Complexes

#### Infill-development in the city

Rather than inducing sprawl through the indiscriminate development of the outskirts of a city, we pursue infill-development, which improves the city's competitiveness by complementing the education and housing function of downtown areas and preventing the donut phenomenon. Also, escaping from the supply focused on the original rental houses, we will plan and supply small and medium-sized sale and rental houses in accordance with the characteristics of the region.

#### Development utilizing the original infrastructure.

To minimize the development expenses following the large-scale investments such as constructing infrastructure, we plan to actively utilize the original infrastructure and education and cultural facilities to rationalize the expenses.

#### Low carbon green cities

We aim to build low carbon green cities that include green homes and the development of eco-friendly and deliberate development while restoring the areas where the environment has been damaged. Thus, an eco-cycle-city that reuses wastes and rainwater will be built, and while building a green network that connects the green land within the city with the nature outside, we plan to distribute more green homes that utilize renewable energy such as solar heat.

# Successful Core Business

## City and Housing Site Development Business \_ KNHC makes urban space that harmonizes human, nature, and technology

We are promoting urban construction and housing site development business to supply houses in a more stable and efficient way.

### New town business

We build environment-friendly and sustainable future-oriented cities to help resolve the overpopulation of the metropolitan area and housing stability. Currently, the cutting-edge new cities are being built in the Sungnam Pangyo, Asan, Paju Unjeong, Yangju Hwacheon, Daejeon Seonambu, Osan Segyo, and Chungnam Docheong new towns, and new town developments are gradually being expanded such as the expanded Osan Segyo development business.

### ▼ Summary of New Town Business Underway

Classification	Area (1,000㎡)	No. of houses built	Planned population (1,000 persons)	Population density (person/ha)	Development Theme
Paju Unjeong	16,500	78,454	205	124	Ubiquitous/water-friendly eco-city
Seongnam Pangyo	9,294	29,263	88	95	Eco-friendly/ubiquitous
Asan	21,320	66,429	200	94	New renewable energy/self-sufficient multifunctional city
Yangju Hwacheon	4,378	22,251	62	142	Public transportation focus/eco-city/ubiquitous
Osan Segyo	7,998	35,876	102	128	Green design city/ubiquitous
Chungcheong-Namdo Office	9,951	38,500	100	100	Luxurious new city/ubiquitous
Daejeon Doan	6,109	23,952	64	105	Culturally self-sufficient city/ubiquitous

## Housing Site Development Business

To smoothly carry out the government's housing policies, we are carrying out a housing site development business that provides qualitative housing construction sites. Considering the demand for housing, price, and land values of the regions for development, we established construction plans and long-short-term housing site supply plans and select housing sites. Also, we are trying to establish land use plans fit to the local characteristics while preserving and restoring natural environment so that housing development is in harmony with nature.

To carry out Bogeumjari housing construction plans without any problems, we will safely secure housing sites in the center of city or nearby areas.

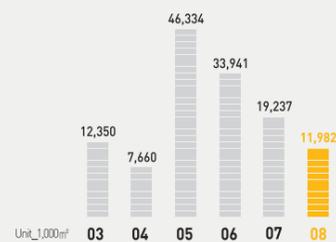
### ▼ Regional Development and Housing Site Development in Harmony with Nature

<b>Bogeumjari Housing Construction Preparation</b>	<ul style="list-style-type: none"> <li>Extract 1,245km<sup>2</sup> developable land for construction of Bogeumjari houses</li> <li>Pilot housing site development business in mountainous areas and hill areas</li> </ul>
<b>Diversification of Development Methods</b>	<ul style="list-style-type: none"> <li>Comprehensive regional development business (Danyang 1,230,000km<sup>2</sup>)</li> <li>Build industrial complexes (Jeonju environment-friendly multifunctional complex 290,000km<sup>2</sup>) ← first</li> <li>Public and private joint housing site development business (Osan 99.7km<sup>2</sup>) ← first</li> <li>Urban development business (new city to which Chungcheong-namdo Office will be relocated 9,938,000km<sup>2</sup>, Jeonju Manseong 1,375,000km<sup>2</sup>)</li> </ul>

### Effort to efficiently secure housing sites

For the sustainable development of our land, we avoid development not considering of the environment, and we have established a plan to secure housing lots that considers housing demands by region and type for efficient development of houses and cities.

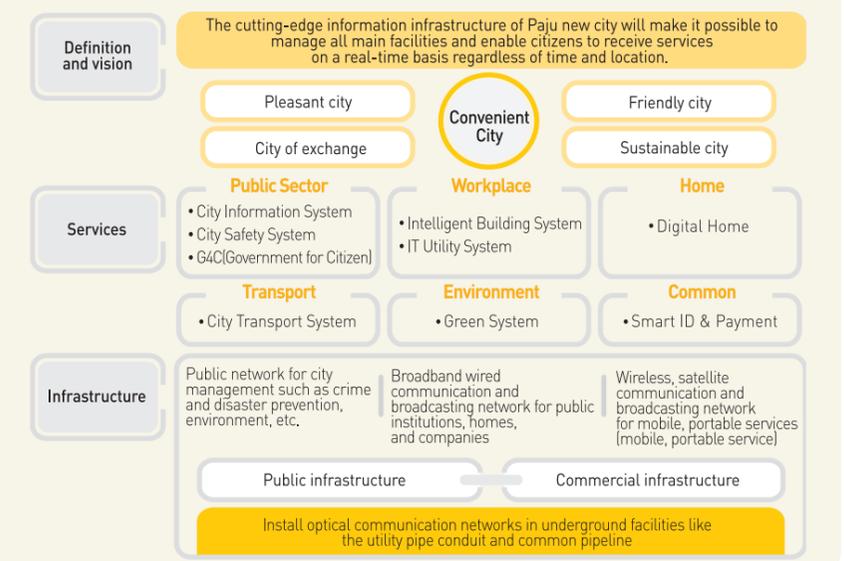
### ▼ Housing Site Supply



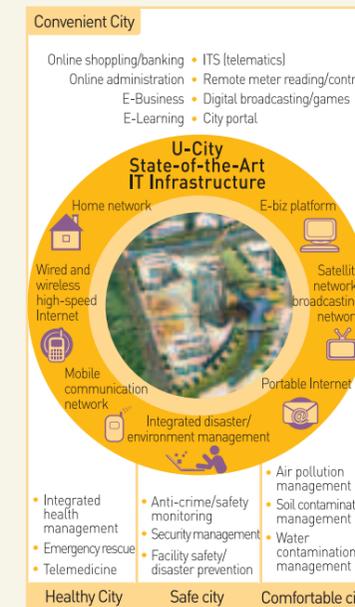
## U-City Business\_ building a ubiquitous future city

KNHC is currently building U-Cities that integrate cutting-edge IT and construction technology in 21 districts including Paju new town. Through this development, we contribute to enhance urban competitiveness and local economy by forming an organic cooperation system between the local government, city developers, and different industries. We also expect to improve the residents' welfare through refined urban functions.

### ▼ Paju U-City Plan



### ▼ General Idea of U-City



## National Balanced Territorial Development Business

KNHC is participating in the national balanced territorial development business that includes 'The First Town of Happy City(Multifunctional Administrative City)' business, Renovation town business, and Business town development to enhance the equal development of urban and rural areas.

### The first town of multi-functional administrative city

As the first business to lead the construction of multifunctional administrative city, we are planning on the first-village business consisting of 7,000 houses in Songwon-ri and Naseong-ri from 2006 to 2011. Escaping from the original 'housing site development after construction planning' development method, we are creating an environment-friendly housing complex that has utilized the natural topography by introducing the 'original topography development method' that establishes plans for land use and construction at the same time.

Also, we are planning to make it a eco-housing model complex following the government's low carbon green growth policy.

As the first large scale housing site to do so, the piece selected from the international design competition was reflected in the actual design.

### Innovation city\_ preparing for the relocation to rural areas of public organizations

The innovation city construction business is being promoted to build a future-oriented city that has the conditions for permanent residency, such as high quality housing, education, and culture, by the close cooperation between the universities, research, industry, and government in relocating public organizations concentrated in the metropolitan area to rural areas.

Korea National Housing Corporation, as the promoter of the Gyeongnam, Chungbuk, and Jeju innovation cities, is building infrastructure for the construction of an environment-friendly innovation city.

### ▼ Construction of Environment-Friendly Innovation Cities and New Cities

- Chungbuk Innovation City**  
Environment-friendly development using the original highlands and creating district-wide water cycle network
- Kyungnam Innovation City**  
Constructing a environment-friendly city utilizing bicycle networks and nature paths
- Jeju Innovation City**  
Learning nature, experiencing history and culture (tangerine orchards, stone wall path, culture museum, etc.)

# Successful Core Business

### ▼ Seoul Shinlim Nangok District Before and After Development



### ▼ Urban Renewal Business

Classification	No. of regions	Business area[m <sup>2</sup> ]	No. of houses built
Residential Environment Improvement	104	5,770,589	96,264
Housing Redevelopment	8	698,655	13,466
Housing Rebuild	5	435,523	10,080
Urban Environment Refurbishment	5	70,469	1,131
City Reorganization Acceleration	2	1,035,586	8,126
<b>Total</b>	<b>124</b>	<b>8,010,822</b>	<b>129,067</b>

→ The end of 2008

## Urban Renewal Business \_ we breathe life into exhausted city



KNHC is strengthening urban community by improving lagged behind city, and revitalizing economy, society, and culture.

### Residential Environment Improvement Business

#### | Making a deteriorated housing area into a livable place |

We are contributing to the improvement of housing welfare and urban environment by creating infrastructure such as roads, parking spaces, and parks in housing areas where deteriorated houses are dense, and remodeling deteriorated houses to make a pleasant housing complex.

### Housing Redeployment Business

#### | Reconstructing coarse and inferior districts into a comfortable life space |

KNHC removes the existing old facilities and buildings from areas with poor infrastructure and defected houses, and creates a pleasant and prosperous living space. To raise the resettlement rates of the original residents when carrying out the housing redevelopment business, we have built houses for relocation in nearby districts, and introduced the 'cycled renewal method' to allow the residents to live in houses already built during the development period.

### Housing Rebuild Business

#### | Reconstructing deteriorated houses to healthy housing complexes |

As a business being carried out in areas where the infrastructure is fair but houses are old, we demolish the original defected houses and build a healthy apartment complex. We execute the business when private companies avoid participation, or when there is a request from the developer.

### Urban Environment Refurbishment Business

#### | Deteriorated urban/suburban areas now get a competitive power |

This business is being carried out to efficiently use business and manufacturing areas, and improve the urban environment of the metropolitan and sub-center areas in which its urban functions need to be restored. As the Garibong urban environment improvement business has been selected as a main district with complex public transportation stations in 2008. A complex functional city of housing, commerce, culture, and circulation facilities is being developed in the center of the Guro digital complex, and the business is being performed in areas such as the Gajeong five-way crossway.

### City Reorganization Acceleration Business

#### | Into a wide and balanced megalopolis |

The business aims at a wide and balanced complex city that accommodates not only housing but also business, circulation, and culture. We have made wide and systematic plans to restore the urban functions by improving the housing environment of the deteriorated cities and expanding infrastructure.



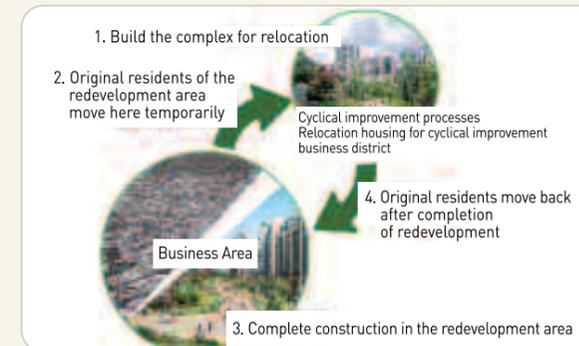
### Development approach that helps residents settle rather than leave the development zone

Because the businesses focused on development profits create a speculative development culture and an economic burden, we have introduced 'cycled renewal business' and 'focal point-based redevelopment method' pilot businesses to complement the problems of the collapsing local community. We are designing various measures to improve the resettlement rate of original residents such as expanding the support for deposit-based rents of those who must be relocated during a development business.

#### | Urban renewal business based on cycled restoration method |

After moving the residents, who lost their living space due to the business, by constructing a new house for moving residents near the district or using the houses already constructed, we carry out businesses based on cycled renewal to help resettlement after the development is completed.

#### ▼ Processes of the cycled renewal business



#### | Focal Point-based Redevelopment Method |

After building apartments for cycling in a part of the area being improved and installing infrastructure necessary for improvement such as roads and waterworks, we are introducing the Focal Point-based Redevelopment Method Residential environment improvement business that makes developments following the organized roads. Korea National Housing Corporation, by playing the role of a coordinator who guides and manages residents to remodel houses using houses for cycling (temporary houses) on their own, is inducing self-development of the original residents.

#### ▼ Focal Point-Based Redevelopment Method Process



### Efforts to improve urban environments of deteriorated metropolitan areas

We improve urban environments through 'station impact area urban high-density multifunctional development' and 'specialized improvement of deteriorated metropolitan areas,' and further city competitiveness.

#### | Utilizing unused railroad sites for the Low-Carbon Urban Renewal Business |

The railroad lots near rail stations, which damage the urban landscape and create noise, will be covered and turned into artificial land, and build low-carbon houses linked to public transportation.

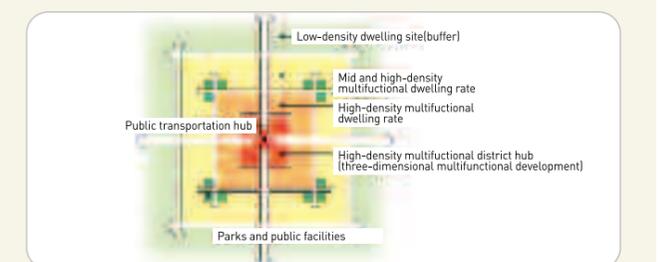
#### ▼ Low-Carbon Urban Renewal Plan Utilizing Railroad Sites



#### | High-density complex development for downtown revitalization at station impact area |

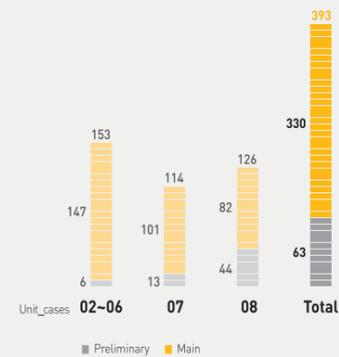
We are maximizing the use of land through the high-density multifunctional development of public transportation nodal regions to a biotope that joins commerce, business, culture, and housing, and are also promoting the reinvigoration of the metropolitan area and expanded supply of small houses.

#### ▼ Station Impact Area High-Density Multifunctional Development

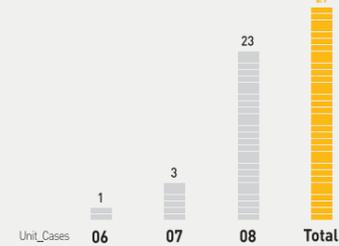


# Successful Core Business

## ▼ Green Building Certification Performance



## ▼ Housing Performance Accreditation Performance



## ▼ Summary of District Heating Business

Classification	Incheon Nonhyeon	Asan Baebang	South-western Daejeon	Asan Tangjeong
Supply Quantity	65,092houses	8,125houses	24,619houses	53,713houses
Business Type	District cooling & heating	Zone electricity	District cooling & heating	District cooling & heating
Construction period	'03-'07	'07-'11	'08-'11	'10-'13
Start of heat supply	2006.3	2008.10	2010.4	2013.3

## Specialized Business\_ KNHC carries out specialized businesses based on accumulated know-how

KNHC is processing a certification business of various building types based on our long history and accumulated know-how. While performing compensation work for business efficiency on behalf of public organizations and local entities, KNHC also performs district heating business and safety assessment effort with built up technology.

### Building certification business

We are carrying out various building authorization businesses of a reliable quality such as Green building certification system, housing performance accreditation, and quality testing.

### Green building certification system

The Green building certification system has been carried out since 2002 to minimize pollutant loads through the construction of green buildings and create a pleasant housing environment. Korea National Housing Corporation was appointed as a green building certification organization in 2002, and has installed a 'Green Building Certification Center' within the housing and urban research institute, and is issuing certificates by grade after evaluating environmental impact factors of buildings.

### Housing performance accreditation

As Korea National Housing Corporation was appointed as a housing performance indication organization by the Ministry of Land, Transport, and Maritime Affairs in January, 2006, it has established a Housing Performance Accreditation Center. Starting from April, 2008, we introduced the 'senior evaluation team' system and are working to produce transparent evaluation results and improve our reliability.

### District Heating Business

The District heating business provides 'heat' or 'electricity' produced from a large scale energy generation facility to a large number of consumers such as apartments. KNHC is carrying out this business at the housing site development district to answer the energy policies of the government and promote convenience for residents. Currently, the district heating business has been approved, carried out in 4 districts (total 151,549 houses) including Incheon Nonhyeon, Asan Baebang, Daejeon Seonambu, and Asan Tangjeong. In the case of Incheon Nonhyeon, we are preparing CDM (Clean Development Mechanism) that uses heat produced through incineration of domestic waste.

### Safety Assessment Business

Korea National Housing Corporation has been appointed a safety assessment organization in December, 1995, and is providing safety assessments and safety inspection of various facilities, initial inspections, joint inspections and support for public organization facilities such as the government, and safety services for private buildings.

### Land Compensation Service

We are improving the efficiency of public businesses by compensation on commission from the local governments and public organizations, such as creating large-scale industrial complex construction and urban planning businesses.



## New Business\_ SN

### Improving competitive power by expanding business lines

Searching for a new business opportunities like promoting overseas business in developing countries, and venturing CDM project is KNHC's growing competitiveness

#### Overseas business

We are acquiring experience with foreign businesses, and building infrastructure using the gratuitous cooperation project connected with KOICA including invited training of foreign public officers and training foreign professionals.

Especially, we are actively making effort such as dispatching resident reporters to participate in foreign housing construction businesses. Also, we are seeking for a plan to carry out a business identification project connected with the government's overseas expansion strategy such as resource diplomacy. The corporation plans to continue its support for technology and seminars of developing countries, and expand its foreign market based on its human network in those countries.

#### ▼ Public officers from developing countries were invited for training in 2008

Training Course	Invitees
Urban improvement course	12 public officers from Iraq
Housing and city policies	11 public officers from Vietnam
Housing policies	10 public officers from Mongolia



#### Financial implication of climate change ; risk and opportunities to our business

The government has declared the 'low carbon green growth' policy as the future vision on August 15th, 2008, and is seeking for various plans to promote it.

If it can be said that Korea National Housing Corporation has concentrated its powers on supplying houses for housing stability keeping pace with the country's economic growth, we plan to fulfill another important responsibility: changing the houses, cities, and land we live in to green spaces for the government's green growth vision.

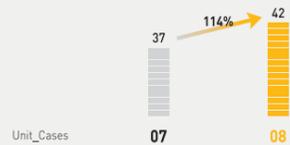
To fulfill the social responsibility of the government's policies and climate change issues, Korea National Housing Corporation will take the lead in changing Korea into a green model by creating green homes, green complexes, and green cities.

#### CDM project

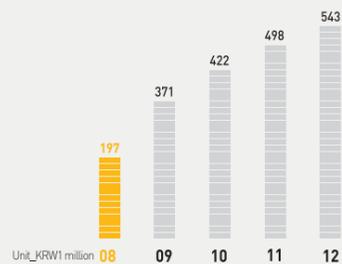
CDM (Clean Development Mechanism) is a cooperative project between developed and developing countries to reduce greenhouse gas emissions. Developed countries are promoting greenhouse gas reduction projects in developing countries, and those outcomes evaluated by the UN CDM administrative organization and the final approval of the CDM executive committee are being used. Korea National Housing Corporation has been carrying out the CDM project since 2007. We are expecting to reduce 62,000 tons of CO2 using the heat produced when incinerating waste at the District Heating facilities in Incheon Nonhyeon and a KRW 1.7 billion (approximately 16.5 billion for the next 10 years) CDM business profit. In the case of Asan Tangjeong new town, a low carbon city is being created, and the CDM project plans are being reviewed to reduce greenhouse gas emissions

# Strengthening Internal Competency

## ▼ No. of Registered Intellectual Property Rights



## ▼ R&D Investment Plan



## ▼ Humansia



## ▼ A/S Brand - Yes Humansia Service



## ▼ Yes Humansia service satisfaction ratings



## Strength of R&D

Korea National Housing Corporation is continuously producing research results through the research institute (Housing and Urban Research Institute), and is improving the application rate of the results through technology development connected with our current business. As a result, the result of const reduction in 2008 is raised to 105% compared to that in 2007; 991 billion to 104.1 billion, and the internal and external support increased 155% ; 20 cases to 28 cases.

In 2008, we won the innovation award in concrete technology contest of Korea Concrete Institute and was awarded the official commendation by the Ministry of the Environment for our contribution to sustainable research and development; through these research results, we are improving the corporation's image.

## Expansion of R&D investment

The Housing and Urban Research Institute developed the optimum investment scale framework to improve the efficiency of R&D investment, and has established a R&D investment expansion plan. As a result, we are planning to increase R&D investment 0.05% each year compared to sales for the next 5 years starting from 2008.

## Reinforcement of Policy Leadership

Korea National Housing Corporation has been working to strengthen its internal abilities to take a leading role in carrying out government policies.

To smoothly carry out the government's housing welfare policies, we have been continuously expanding out housing welfare business such as national rental house, rental housing for multi-unit tenement, default purchase rental housing, and deposit-based rental housing, and have established a plan to supply financial resources to build a basis for the business. Based on this, we plan to take leadership in the 'Bogumjari housing policy' of building 1.5 million houses in the next 10 years.

Furthermore, following the government's low carbon green growth policy, we are improving the application rate of research results by connecting research technology related to green homes, green complexes, and green cities with our current business. We are also making constant effort to take the lead in carrying out the government policies, such as supporting the government's establishment of housing and urban policies through construction technology R&D, and strengthened internal competency

## Improvement of Business Efficiency by Strengthening Systematic Competency

### Business divisions by process

By clearly stating our obligations and rights, we have improved administration efficiency, and to improve our business competency by efficiently using limited human resources, we changed the functional organization into the partition system in 2007.

### Environment & Energy Business Head Division

By in 2008, we have built a strategic basis to carry out environment-related businesses. Through this, we have now become able to efficiently carry out intensive businesses, and respond more actively to future-oriented business such as CDM.

## Building BI (Brand Identity)

### Humansia

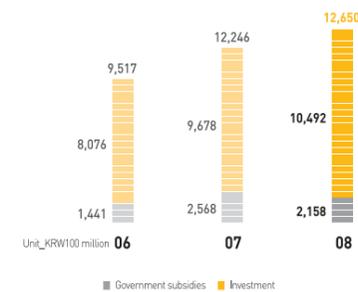
Korea National Housing Corporation has developed 'Humansia,' which incorporates the development philosophy of the corporation on environment-friendly and humans space. Humansia, a compound word of 'Human' and 'sia [meaning vast earth, space],' is a brand that shows how KNHC wishes to create housing spaces focused on human to provide the qualities of a comfortable life.

### A/S brand- Yes Humansia services

To raise customer satisfaction and provide different services, we introduced 'Yes Humansia service' in 2007. The first 'Yes' means our company's willing response 'yes' to customers' any requests. The second 'Yes' means customers' response from our company's satisfied maintenance service.

# Economic Performance

## ▼ Government's Financial Support



Both investments and government subsidies are executed as Housing Welfare Funds for the housing stability of low-income houseless families.

## ▼ Investment Support for Housing Welfare Business

Classification	Government support criteria	Compared to actual working expenses
Investment	19.4%	12.5%
Fund	46.4%	32.1%
Deposit	24.4%	17.3%
Own fund	10.0%	38.1%
Debt ratio	415%	700%

Actual investment compared to the original plan. Due to lack of funds, the debt ratio attributed to ental housing business increased.

## ▼ Balance sheet

(Unit: KRW1 million)

Classification	Settlement 2006	Settlement 2007	Settlement 2008	
Assets	Current assets	19,755,774	24,727,585	30,055,069
	Fixed assets	20,870,374	26,315,350	34,096,953
	<b>Total assets</b>	<b>40,626,148</b>	<b>51,042,935</b>	<b>64,152,022</b>
Liabilities	Current liabilities	5,112,999	6,796,535	9,795,564
	Fixed liabilities	25,815,494	33,077,070	42,032,503
	<b>Total liabilities</b>	<b>30,928,493</b>	<b>39,873,605</b>	<b>51,828,067</b>
Capital	Capital	7,564,231	8,532,054	9,581,294
	Other	2,133,424	2,637,276	2,742,661
	<b>Capital subtotal</b>	<b>9,697,655</b>	<b>11,169,330</b>	<b>12,323,955</b>

## ▼ P/L Statement

(Unit: KRW1 million)

Classification	Settlement 2006	Settlement 2007	Settlement 2008
Total revenues	5,373,286	6,670,623	8,721,567
Total expenses	5,177,494	6,110,544	8,457,117
Net profits	195,792	560,079	264,450

The rapid increase in net profits was caused by the increased sale when the real estate market was booming in 2007, and the sharp decline in net profits in 2008 was because of the rise in unsold houses and the deterioration of business profits by recent economic recession.

## Activities for Improving Financial Structure

As an increasing amount of money is borrowed for funding housing welfare business, the debt ratio is increasing. Accordingly, Korea National Housing Corporation found ways to improve our financial structure: e.g. setting up realistic standards for raising working expenses, and diversification of funding sources.

## Social Infrastructure Investments

In the process of carrying out a business, we are paying costs for service utilities in accordance with the Act on the Promotion of Site Development and the Act on Housing, and trying hard to improve other service utilities for the convenience of residents. KRW 1.268 trillion, 8% of the KRW 13.3969 trillion of working expenses we expended for urban and housing site development from 2007 to 2008, was spent as investments in service utilities like waterworks, sewage, roads, power and gas.

## Contributions

We provide financial assistance for the events of non-profit organizations like Citizens for Decent Housing's 'Mom's kitchen,' and make donations in case of natural disasters.

As corporations are prohibited from making political donations, Korea National Housing Corporation is prohibited from making any political donations or making any donation in kind in the name of KNHC.



# Turning Space into Joyful Towns

Houses next to houses make a town  
Towns then blended with nature  
In the space that enriches houses and nature,  
And in the houses in harmony with nature,  
People's dream grows  
A valuable space always filled with laughter and happiness,  
Towns everyone wants to live in: we create



Creating Sustainable Space | Turning space into joyful towns

## The Space of a town you want to live in

Paju Unjeong District

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Eco-Efficiency Management	40
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# Disclosure on Management Approach

## Environmental mission of KNHC

Korea National Housing Corporation is pursuing to go green in all our processes from design through construction to housing management. Our mid-to-long-term management strategy includes three key tasks: development of environment-friendly materials and technologies, management of eco-efficiency of construction sites, and building the environment-friendly planning system. We are trying to transform our country into a place everyone wants to live in.

### Core performance indicators chosen by stakeholders

GRI G3 guidelines propose 30 environmental performance indicators including quantity of raw materials used and greenhouse gas emissions. According to the survey of the internal and external stakeholders, a total of 16 indicators, such as the quantity of raw materials used, the number of solar houses built, reduction through energy-saving measures, the number of green building certifications, and greenhouse gas emissions, were selected as important environmental performance indicators in terms of contributions to KNHC's sustainable growth and development.

Environment Performance Indicators



## 2008 Performance by Major Performance Indicator

- [EN1]Quantity of raw materials used: Key raw materials are reinforced steel, ready mixed concrete and aggregates. Total consumption is rising, but consumption per unit continues to decline.
- [EN2]Percentage of recycled raw materials used: Key recycled raw material is recycled aggregates. We replaced more than 60% of total aggregates used with recycled aggregates to increase the percentage of recycled raw materials used.
- [EN5]Reduction through energy-saving measures/behavior: At the sites and Main Office we are saving energy by turning off lights during lunchtime and keeping the room temperature at an appropriate level.
- [EN6]Renewable energy houses built(climate change sector): In 2008 the photovoltaic power generation system was installed in 5,627 houses in 10 zones. solar hot water heating systems and geothermal heating and cooling systems are installed in welfare centers and administrative buildings.
- [EN7]Green procurement results: We purchased environment-friendly products worth about KRW 110 million in 2008.
- [EN11]Description and impact of projects in eco-system preservation zones and wetland protection zones: There are no businesses that are being carried out in the ecosystem conservation zone or Wetland protection areas. endangered Class II birds, such as Korean buzzards and Falco subbuteo, inhabit Asan new town, and we are protecting them by building eco-parks and trying to protect their habitats.
- [EN13]Cases of restoration of damaged habitats: We built eco-corridors and eco-parks to create habitats for animals and plants.
- [EN14]Management of biodiversity: we made the eco-plan mandatory to ensure the efficiency of site environment management.
- [EN16]Total greenhouse gas emissions: Environmental management data were collected from the 3 districts (Paju Unjeong, Seongnam Pangyo, Asan Baebang) which have the greatest symbolic meaning among the new town development businesses being carried out by KNHC. In 2008 the total greenhouse gas emissions of 3 sites were 61,982 tons. 76.1% of them is from construction equipment. So efficient use of construction equipment is necessary. At the Main Office and Regional Head Divisions the total greenhouse gas emissions were 10,603 tons, and emissions due to electricity accounts for 70.9%. The Daegu Gyeongbuk Divisions produced 360kWh of renewable energy in 2008, thereby reducing 161kg of greenhouse gases.
- [EN22]Quantity of construction site waste: A total of 3,848,000 tons of construction waste was generated at the sites, and the recycling percentage was a whopping 95.3%.
- [EN23]Number and quantity of hazardous noxious substance outflows: When creating a housing site, we are thoroughly examining if the soil has been polluted due to existing obstacles. In 2008, Cadmium and Nickel were found during the soil examination in the Gajeong district of Incheon, and soil pollution purification projects are currently underway.
- [EN25]Environmental impact of sewage/filthy water emissions at sites and Main Office: The Main Office and Regional Head Divisions send all sewage and filthy water to sewage treatment plants, and sites with facilities discharging waste water use their own waste treatment plants to manage water quality, and discharge to the nearest water system.
- [EN26]No. of Green Building Certifications : In 2008 10,620 houses in 15 complexes acquired the environment-friendly building certifications.
- [EN28]Violations of laws and regulations and complaints: In the past three years Korea National Housing Corporation has never violated any environmental laws and regulations or paid fines as a result, but received three administrative measures and paid KRW 5 million in total as fines from 2007 to 2008.
- [EN30]Environmental investments: In 2008 we paid a total of KRW 5.15 million as expenses for waste disposal. As our system for assessing education and R&D investments is incomplete, it is difficult to calculate the total environmental investments. We will make up for it by improving our environmental management system.

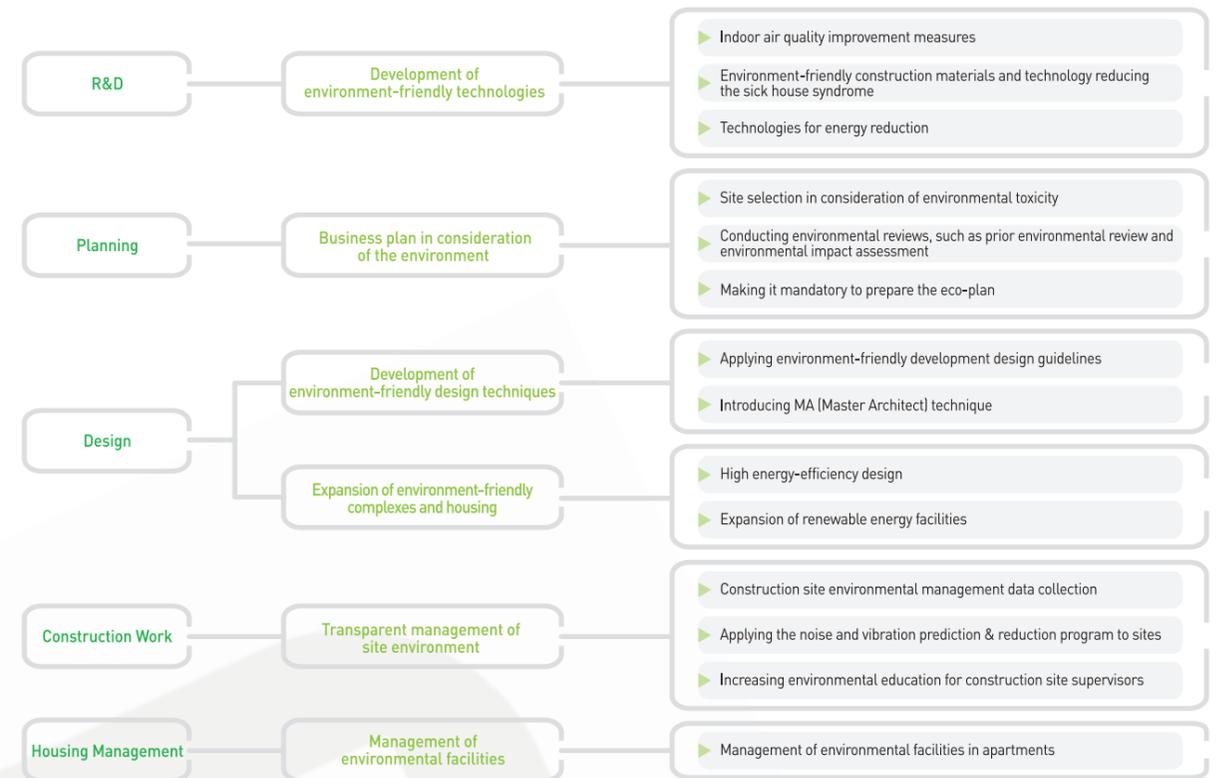
## Strategies approach to the environmental mission

KNHC applied 'environment-friendliness' concept for both business and its process. The goal of our environmental management is to identify new business opportunities. As an Green Building Certificationsagency, we will make continued efforts to promote the popular understanding of environment-friendliness of buildings, and aim at an energy-recycling society through our renewable energy business.

We are faithfully performing our roles and duties with regard to environment-friendly development by conducting prior environmental review and environmental impact assessment, while improving the entire development processes to play a leading role in environment-friendly housing and urban development.

environmental management in the construction field, expanded the existing scope of construction waste, noise and vibration management to calculate the quantity of raw materials used, and the current status of greenhouse gas and air pollutant emissions in three representative districts (Paju Unjeong, Asan Baebang, and Seongnam Pangyo). We will gradually increase the scope of environmental data collection to reinforce environmental management at sites.

## ▼ Environment-Friendly Management Activities by Process



### Interview with the external stakeholder \_ Young-Ho Jang, the Space Policy and Planning Team, the Provincial Government of Gyeonggi-do

#### • Enhancing the ability to build environment-friendly cities and houses

As the awareness of environment-friendly cities and houses is spreading, the development of environment-friendly materials and technologies is becoming the foundation of urban competitiveness. Also, the building of environment-friendly cities and housing complexes is emerging as an important issue in urban development. At present, safety and health problems due to indoor air quality and waste generation construction fields continue to occur, and continued efforts to solve these problems are the responsibility of constructors. As a public organization, KNHC feels more obligated to find solutions to these problems. Environment-friendly construction needs to be taken into consideration from the design phase, and environmental accidents must be prevented through strict environmental management.

We are collecting environmental data in the fields for the sake of this report, which will be a progressive outcome of this report. Although the scope of data collection was limited to 3 districts, it will be meaningful in that the data can be used as the basic data for KNHC's environmental management.

## Development of Environment-Friendly Materials and Technologies

We develop material and technologies beneficial to man



### R&D

#### R&D for a Comfortable Indoor Environment

##### Reinforcement of the indoor air quality management standard

To improve indoor air quality, we reinforced the ventilation design standard and environment-friendly floor adhesive performance standard, and amended the indoor air quality management regulations.

##### Construction waste recycling technology

To improve the practical recycle rate of construction waste, Korea National Housing Corporation is working on sharing and developing information on related technologies by participating in seminars and forums in Korea and overseas. Especially, KNHC was appointed as the hosting research institute for 'the development of construction waste recycling technology' by the government, and is carrying out R&D and research projects on cutting-edge urban development. Current researches focus on plans to recycle aggregates and concrete, and asphalt concrete, build the design-phase infrastructure, and develop on-site recycling planning technique.

Our researches resulted in acquisition of the intellectual property concerning 24 patents and patent applications, and one new technology certification. We are accelerating our research efforts by publishing over 200 research papers, entering into technical and research exchange agreements, giving open demonstrations, and executing the pilot projects.

We are anticipating that our researches will go a long way toward maximizing actual recycling of construction waste, and thus consolidating the foundation of the government's 'low-carbon green growth' policy

##### Identification of environment-friendly construction materials

Korea National Housing Corporation conducted a survey of apartment contractors in 2008. This survey revealed high demands on the improvement of finish materials. Accordingly, to improve on the new-home syndrome by aggressively accommodating customer needs, we began to develop construction material technologies.

As a result, we developed the technology to minimize hazardous substance, and construction materials using this technology to improve environmental performance, and applied for patents.

In addition, KNHC is actively engaging in R&D activities, such as preparing to apply for a patent for the energy recovery system to turn apartment food waste into a resource, and to build environment-friendly apartments.

### Resource Saving Techniques

#### Development of energy-saving apartment construction technology

To prevent environmental pollution by saving energy and resources consumed in apartments, and to build environment friendly houses, we are developing the technology for propagating 'low-energy environment-friendly apartment.' We are conducting a three-year project from 2006 to 2009, and once the research is completed, costs will be saved, energy, environmental load, and carbon dioxide will be reduced.

#### Energy-recycling technology

To use recycled energy to cut down on fossil energy and maintenance costs, we are conducting researches on cooling and heating systems using solar energy and geothermy.

We are planning to use the geothermal system for the residents' welfare center of Seongnam Pangyo section 3, and expecting to save KRW 4 million a year in management costs.

KNHC is developing architectural technology that meets customer requirements and the needs of the times. Typical examples are the environment-friendly innovation cities in Chungcheong-bukdo, Gyeongsang-namdo and Jeju-do, and continuously making efforts to build water circulation networks, and improve indoor air quality. According to the principle of prevention, we are trying to find ways to minimize environmental impact from the R&D phase, the initial stage of the development process.

## Building Environment-Friendly Planning System

We are creating an environmental system for the coexistence of nature and human.



### Planning

#### Site selection

KNHC is using JUGIS (Jugong Geographical Information System) to manage ecological and bio-diversity data, such as environment conservation zones and degree of green naturality. We are also using this system in the developable area selection process to exclude areas with high ecological values and to protect them. In accordance with relevant procedures, we finished district designation for 19,237,000m<sup>2</sup> in 2007, and 11,982,000m<sup>2</sup> in 2008.

#### Environmental review

To prevent environmental impact likely to occur in the course of a project, we are thoroughly conducting prior environmental reviews and environmental impact assessment.

#### Improvement efforts for Environmental Impact Assessment

We are trying to identify the social needs and new systems related to environmental review, and reflect them to the system improvement process. We are actively participating in improving the environmental impact assessment system and identifying improvement projects. We are participating in the '2008 environmental impact assessment regulatory reform forum' hosted by the Ministry of Environment, and the 'environmental evaluation system improvement advisory council' to improve the problems of the system.

#### Publication of environmental impact assessment handbook

To ensure the efficiency of environmental review, such as prior environmental review and environmental impact assessment during consultation with relevant agencies regarding housing site development business, we published the 'environmental review handbook' that summarizes the system, and describes operations, replies to inquiries, and management policies. We are using the handbook to reinforce the expertise of officials in charge, improve the ability to respond when the system is modified, and pursue environment-friendly development.

#### In harmony with nature \_ Development process in Green Belt relaxation zones

We are carrying out our businesses within the 'green belt' areas, according to related regulations, for the supply of rental houses and small and medium-sized houses for sale to provide housing stability to the people. KNHC will carry out our businesses in the green belt area, which will be deregulated due to the supply of 'Bogeuinjari houses,' following the environment-friendly development process and build houses that harmonize with nature and protects the natural environment.

#### Mandatory eco plan

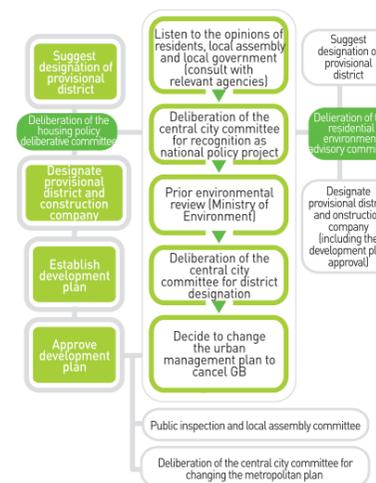
For the sake of environment-friendly development in harmony with surrounding environment, KNHC made it mandatory for business districts, located in metropolitan development restriction areas, to establish eco-plans starting from 2005.

The eco-plan is to prevent the habitats of animals and plants from being discontinued or damaged due to businesses. It refers to the land use plan that preserves the ecosystem, and helps build the green network. We established the eco-plan to introduce the ecological corridor in 12 districts including Incheon Seochang district 2, build the water circulation system in 16 districts including Daegu Yeongyeong, and the green network in 19 districts including the Incheon Gajeong district.

#### ▼ Environmental Review During 2007~2008

Classification	07	08
	Total area (1,000 m <sup>2</sup> )	Total area (1,000 m <sup>2</sup> )
Prior environmental reviews	514	10,051
Environmental impact assessment	60,064	22,169
Natural scenery analysis	24,497	12,498
Water pollution analysis	15,271	2,450

#### ▼ Development Process for Green Belt Relaxation Zones



# Building Environment-Friendly Planning System

We are creating an environmental system for the coexistence of nature and human.



## Design

### Designing Energy-Efficient Housing Models

The 'building energy grade certification system' gives different grades to buildings according to their energy reduction rates: grade 3 (13.5~23.5%), grade 2 (23.5~33.5%), and grade 1 (more than 33.5%). Korea National Housing Corporation was the first company to acquire grade 1 building energy grade certification in the apartment category in 2004 for the 136 the National Rental Houses in Yongin Jukjeon by reducing energy by 41.3%. Our company has acquired grades 1~3 energy efficiency certification for 37,479 houses in 53 districts till 2008. We are planning to acquire grade 1 for 55,000 houses every year starting from 2009 and develop housing models that will reduce energy by more than 50% by 2010.

### Reinforcing Designs of Environment-Friendly Buildings

In 2008 alone, Korea National Housing Corporation acquired the green building certification for 10,620 houses in total: the 'most excellent grade for the two apartment complexes we built, and the 'excellent' grade for 13 complexes. We are reinforcing environment-friendly designs from the design stage to continuously expand environment-friendly building certification.

### Design Respecting Natural Surroundings

#### Housing complex design

We are reflecting environment-friendly elements in the themes of districts by incorporating or connecting to elements of the natural environment such as local parks or rivers near the complexes.

#### Outdoor space formation

We are creating an environment-friendly exterior space by utilizing the landscape elements of the original surrounding environment. We have created a great variety of outdoor spaces making the best use of natural resources by installing such as the solar system using the sun, the solar and wind system, which is an environmental sculpture using the sun and wind, and emotional play facilities and environmental sculptures based on natural energy.

#### Environment-friendly resource recycling design

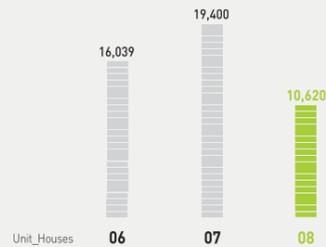
In the case of the Paju new town, to prevent 'heat islands' in the urban center, we are planning to introduce the 'water cycle system' that provides a pleasant water-friendly environment. By introducing the first water cycle system in the world, we plan to raise the city value as well as develop an environment-friendly model of a new city through the construction of a water city that harmonizes human with nature.

#### Developing human-environment-friendly indexes

To develop a model of a healthy city with a clean environment, we have systematized the 'planning standards by human-environment-friendly planning element' in 2007, and in 2008 we came up with ways to realize the goal by confirming the indices and developing evaluation tools, and made manuals.



### Green Building Certifications



### Paju New City - Water-Friendly City Design



### Development Blueprint of the Cheongwon Hyeondo Districts



### Establishing a plan to apply designs in the public sector

Following the 'Design Korea Project' carried out by the government to establish sustainable national land environment design, Korea National Housing Corporation is also establishing a public design application plan by breaking away from the original uniform public designs and use it to strengthen urban competitiveness and revitalize local economy. After establishing the landscape planning systems in Euijeongbu Gosan and Cheongwon Hyeondo, we have applied landscape and public designs fit to each district's characteristics through the specialized designs of urban facilities in innovation cities of Gyeongsangnam-do and Jeju, the Suwon Homaesil estate, etc.

### Master Architect (MA) design

For planned development of all districts and integrated design management, KNHC have introduced the 'MA (Master Architect) design system which appoints a general planner who has practical experience and outstanding design coordination skills to put him/her in charge of developing housing complexes. This system, used mainly in districts with great environmental values or that are environmentally vulnerable, is helping establish an urban housing culture of coexistence and symbiosis.

### MA Design Performance in 2008

Beautiful urban space	Sustainable housing environment	Urban housing characterized by coexistence and symbiosis
<ul style="list-style-type: none"> <li>Landscaping in harmony with topography in consideration of the distant, mid-range and close-range view</li> <li>Creating a housing environment harmonized with the nature of mountains and rivers</li> </ul> <p>Yangsan Sasong district etc.</p>	<ul style="list-style-type: none"> <li>Creating an environment-friendly city which maximally conserves nature</li> <li>Inigorating the city by improving infrastructure and basic services</li> </ul> <p>Siheung Janghyeon districts etc.</p>	<ul style="list-style-type: none"> <li>Promoting social and cultural coexistence with the surrounding districts</li> <li>Networking parks, green space, and pedestrian systems</li> </ul> <p>Seongnam Yeosu districts etc.</p>

Completed the space plans and designs for 21 districts within the area that have been taken off the green belt

Space plans and designs for 7 districts within the area that have been taken off the green belt, including Daegu Daegok 2, are in progress

# Eco-Efficiency Management

KNHC ensures nature and human's coexistence



## Construction Work

### Eco-friendly field management system

Korea National Housing Corporation established construction environmental management culture at an early stage by implementing the environmental conservation master plan at construction sites. We are trying to improve the quality of construction environment by preventing public complaints caused by environmental pollution. Furthermore, KNHC has been continuously developing environmental management techniques to manage the setting of construction sites in a more systematic manner. In addition, we are providing environmental management training sessions at the main office and regional headquarters. The sessions are about waste management strictly focused on process in construction sites. In 2007, we gave training on the use of the noise prediction program, an appropriate treatment of construction site waste, etc.

### Thorough environmental management through systematic report

Korea National Housing Corporation has built a report system as a preventive measure for environmental accidents and the management of construction waste. This system takes measures on environmental mishaps. Furthermore, we will reform our system and continuously improve our weaknesses in the environmental management area.

### Status of the Environmental Management Organization

#### Examination of the Appropriateness of Environmental Management Plans

- Getting environment-related permits and documents ready
- Keeping construction pollution within legal limits
- Selecting the best construction technique for site conditions
- Using construction methods, procedures and processes minimizing construction pollution
- Installation and management of environmental facilities such as temporary sound barriers, wind screen, vehicle and wheel washing systems, etc.
- Environmental management within the site, such as regular cleaning and water sprinklers
- Environmental inspection and worker education etc.

#### Proper Disposal of Construction Waste

- Separate collection and storage of waste by property and type
- Keeping waste on the site for the legally required duration (45 days for specified waste, 90 days for construction waste)
- Prohibition of earth and sand not meeting the recycling standards and incineration in places other than incinerators
- Establishment of piecemeal contract for waste

#### Revitalization of 'Environmental Day' events

- In conjunction with the 'Safety checking day' on the 4th of every month
- Arrangement and clean-up of construction sites materials, workshops, falsework, etc.) and cleaning the surrounding areas of the construction site, various safety/environment signs and repairing facilities
- Vendor: event record management and reporting (on the 10th of every month: details, number of participating people, pictures before/during/after the events, etc.)

#### Environmental Management Organization

- Organization: person in charge of environmental management [site manager] and subvendor site manager environment manager [manager in charge of construction, section chief], environment manager [engineer, foreman]
- Duty: establishment and execution of construction site environmental conservation measures / establishing and executing plans to suppress waste generation and recycle/ establishing and executing plans to prevent complaints / checking the installation status and conditions of various environmental facilities / cleaning areas around the site and garbage on sites / environmental education and meetings concerning environment
- When: monthly training and meeting
- Supervision: giving guidance and advice at meetings

### Status of the Environmental Management Organization



## Construction Field Environment Management

To understand the environmental impact that occurs in the construction process, Korea National Housing Corporation grasped the current status of environmental management in 3 districts including Paju Unjeong, Asan Baebang, and Seongnam Pangyo. To this end, we defined the scope of environmental data collection applicable to sites, and calculated the possibility of data collection, and selected representative sites where data would be collected first. This environmental data collection has a greater meaning in that it expanded environmental management to vendors.

### Using resources in such a way as to increase recycling

Raw materials often used in the construction industry include ready mixed concrete and aggregates, and the total quantity used has been increasing in earnest since 2007.

The use of semi-permanent alternative moulds, a frame for installing concrete structures, is increasing.

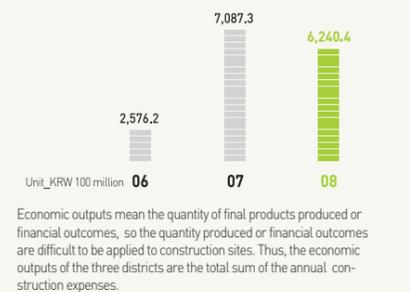
### Water use

In case of water, we are using waterworks, river water, and underground water, and among the 66 working areas of 3 districts that the status of environmental management was examined, 1 working area was using water from a water source conservation area (Paldang lake). Also, as the amount of waste water produced in 2008 was 12,760 tons, we have installed a sewage treatment facility to prevent water pollution, and 2 working areas discharged treated waste water into the Han river and Unjeong River. In section 1-2 of the Gimpo-Gwansan road construction, we are collecting rainwater for recycling, and in all sections we are utilizing not only waterworks and river water, but also reclaimed water to remove fugitive dust.

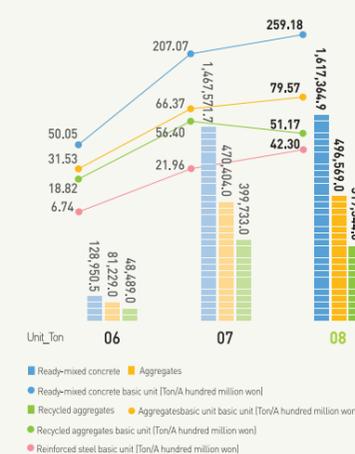
### Scope of Environmental Data Collection



### 3 Districts Economic Output



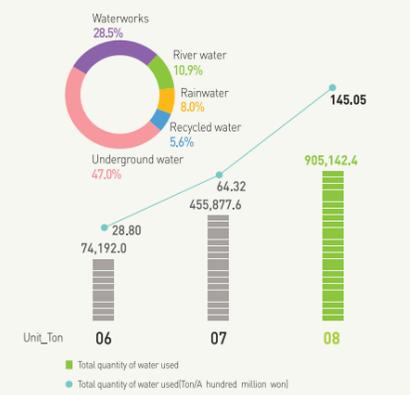
### Quantity of Raw Materials and Recycled Aggregates Used



### Quantity of Moulds Used



### Quantity of Water Used



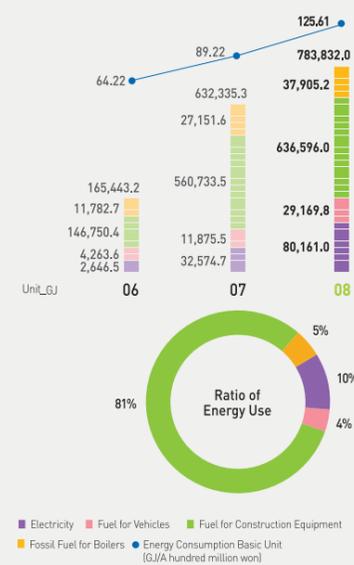
Basic unit [Total amount used or produced/economic yield] : it is a unit that compares the total amount used or produced to economic outputs, and represents the efficiency of environmental management by year

# Eco-Efficiency Management

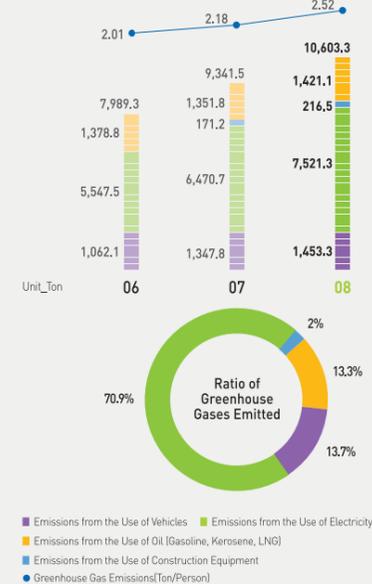
## KNHC ensures nature and human's coexistence



### Energy Consumption (three districts)



### Greenhouse Gas Emissions (three districts)



\* GJ : 10<sup>8</sup> of J(Joule), a metric of physical energy content

### Energy consumption

The total amount of energy used in the 3 districts in 2008 is 783,832GJ, and the total amount is increasing as construction works are carried out in full scale.

### Activities to reduce energy use and greenhouse gas emission

In an organization-wide effort to save energy, we are campaigning to reduce energy use by 10%: e.g. turning off unused electric products, maintaining an appropriate temperature for heating and cooling, car pool, use of high-energy-efficiency products, prohibition of idling, etc. to save energy.

### Greenhouse gas emissions

The total amount of greenhouse gases emitted from the 3 districts in 2008 was 61,982 CO<sub>2</sub>-Tons, and e total greenhouse gas emissions.

### Standard for calculating greenhouse gas emissions

1. Calculation of the caloric value of each energy source  
The caloric value of each energy source was calculated in accordance with the energy caloric value conversion rules in Annex 1 of the Enforcement Regulations of the Framework Act on Energy (amended in March 2008).
2. Greenhouse gas emission factor of each energy source  
The IPCC (UN Intergovernmental Panel on Climate Change) standard was applied to the emission factor of each energy, and GWP (global warming potential) was based on the Fourth Assessment Report of IPCC (2007). As for the emission factor due to use of electricity, the national emission factor of 0.424kgCO<sub>2</sub> / kWh was applied.

### Efforts to protect the ecosystem

The area of the workplaces in the 3 districts is 15,715,863m<sup>2</sup>, and investigation has revealed that near threatened birds (endangered species class II) such as the Korea buzzard and falcon inhabit regions including the Asan Baebang district.

Korea National Housing Corporation used the returned Ecosystem Conservation fund to carry out environmental conservation projects such as creating biotopes, restoring damaged ecosystems, etc. Through this, we are identifying regions whose ecosystem is being damaged due to local development and are working to conserve and restore the ecosystems by creating eco-swamps and places to experience nature.

### Noise - Vibration - Dust

To minimize noise, vibration and dust generation from construction site, we are implementing noise/vibration reduction techniques, field boundary fences, temporary sound barriers, automated wheel washing system, water spray truck operation, traffic controller assignment and dust covers on building exteriors.

Particularly, in case of public complaints regarding noise which make up most of the complaints on the environment, we have completed the development of a noise prediction program to improve the efficiency of handling public complaints, and the program is planned to be applied on the fields from 2009.

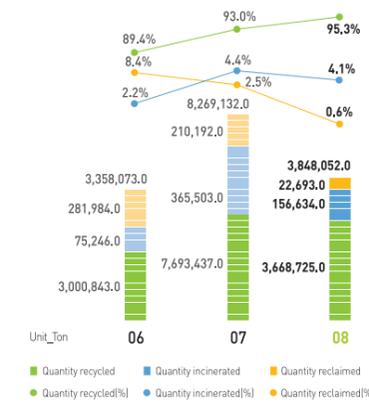
### Status of Public Complaints Concerning the Environment

Classification	Waste	Noise	Dust	View	Others	Total
04 - 08	11	539	96	58	52	756

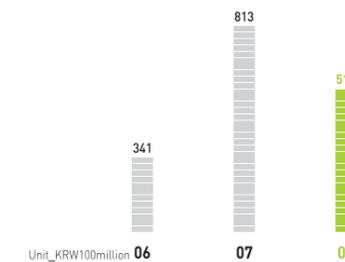
(Unit : Point)



### Quantity of Construction Waste



### Expenses for Construction Waste Disposal



### Gwangmyeong Anteo Reservoir Eco-Park (May 2007 - May 2009)



### Waste management system reinforced

To minimize construction waste, Korea National Housing Corporation conducted researches on the actual conditions of waste and holding workshops, and established the construction site waste management plan and implemented the 'construction site waste management manual.'

The total amount of waste from construction sites in 2008 is 3,848,000 tons. Most of this waste was recycled, and specified waste was managed separately in a storage, and was processed on commission by a company with appropriate treatment technology. Particularly, in cases of toxic wastes such as asbestos, we receive prior permission from the Ministry of Labor before demolition. Afterwards, the waste is being processed on commission according to the Act on Waste Management and the Act on Construction Waste Recycling. 95.3% of construction waste is recycled, and the percentage is continuously rising, while the percentage of waste being incinerated or reclaimed is decreasing.

### Prevention of soil contamination

When creating a housing site, we are thoroughly examining if the soil has been polluted due to existing obstacles. In 2008, Cadmium and Nickel were found during the soil examination in the Gajeong district of Incheon, and soil pollution purification projects are currently underway.

### Environmental investment

KRW51.5 billion was spent on waste disposal in 2008 but the total environmental investment is difficult to compute due to the insufficient system relating to education and R&D investments. We plan to complement the system by improving the environmental management system.

### Environmental compliance

Korea National Housing Corporation did not pay any fines for violating the environmental laws during the past 3 years, but there were 3 cases in which we had to pay a total fine of KRW 5 million in administrative dispositions.



### Housing Management

#### Apartment Environment Management

We are decreasing the environmental impact of housings by maintaining environmental facilities such as the sewage treatment, central heating, and underground water pump facilities in compliance with the legal standards, and trying to provide a pleasant housing environment for the residents. We establish an environmental conservation master plan regarding environmental facilities every January, and analyze the actual conditions of environmental management each quarter. We also give guidance on and inspect environmental facilities whenever necessary. We are actively pursuing environmental management.

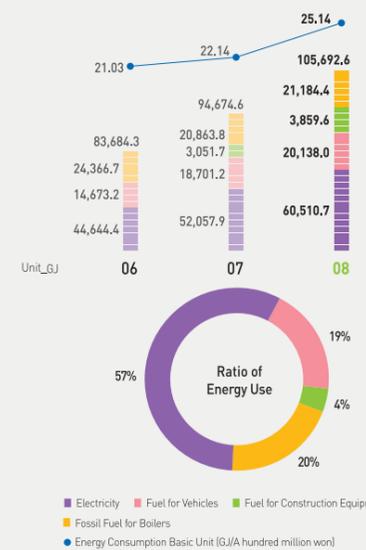
- **Sewage processing facilities** : KNHC developed a sewage treatment technology independently to effectively treat the waste water of apartment complexes. We are managing stipulated items, such as BOD and SS, of discharged water from the sewage treatment facility below permissible levels by measuring them every month.
- **Central heating systems** : For air pollution management of the central heating facility, a boiler and prevention facility conforming to the Clean Air Conservation Act are being operated.
- **Underground water pumps** : Regular water analysis is being carried out for the items stipulated in the Groundwater Act.
- **Water storage tanks** : To supervise illegal acts of the public water storage facilities, we clean them twice a year, and make sure that water quality is measured at least once a year by a drinking water analysis agency.
- **Oil tanks** : We have the soil pollution level of the oil storage facilities regularly measured by a soil-related agency designated by the Ministry of Environment.

# Eco-Efficiency Management

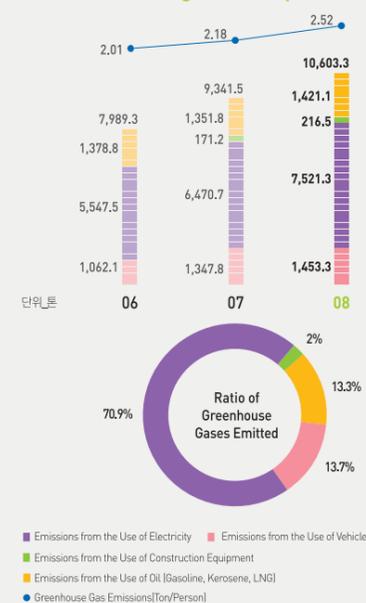
KNHC ensures nature and human's coexistence



## Energy Consumption (main office and regional headquarters)



## Greenhouse Gas Emissions (main office and regional headquarters)



## Environmental Management of the Main Office and Regional Headquarters of Korea National Housing Corporation

### Thorough management of energy use and greenhouse gases

Korea National Housing Corporation is actively practicing the 'Public Institution Energy Rationalization Guideline.' In the case of our office building in Daegu Gyeongsang-bukdo, we have produced 360kWh of electricity using terrestrial and solar heat, and reduced 161 kg of greenhouse gases. Also, the main office and regional headquarters are using high-efficiency lighting systems, power-saving office machines and appliances. Furthermore, education and events regarding energy are carried out during job training such as new employee training, and we are encouraging our employees to change their behavior to save energy by having them participate in education and events provided by external agencies. In 2008 Energy consumption of the main office and annex of the main office, and regional headquarters add up to 105,693GJ, a slight increase over the previous year. Characteristically of energy consumption, CO2 produced indirectly through electricity and district heating has been found to be far greater than that produced by heating and city gas used for cooking.

### Continuous energy saving policies

Korea National Housing Corporation strengthened the automobile shift system from 5 shifts to 2 shifts in July 2008, and decided to increase the percentage of mini cars and hybrid cars for business use to 50% by 2010. Also, to encourage commuting by bicycle, we have decided to install 300 bicycle racks. Through the use of public transportation, we have been able to reduce 30% of business vehicles, and we are continuously promoting energy saving campaigns that can be easily done in our daily lives such as controlling the air-conditioner and heater temperatures and the time they are used in the office, saving water, turning off lights and monitors during lunch breaks, and using localized lights during night duties, etc.

### Master plan to encourage environment-friendly purchasing

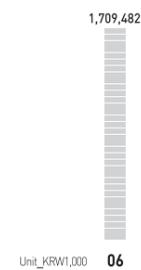
We have established the eco-friendly product procurement plan and are actively promoting purchase of environment-friendly office machines and electronic appliances. We also plan to raise the level of understanding of environment-friendly products through education.

### Water use

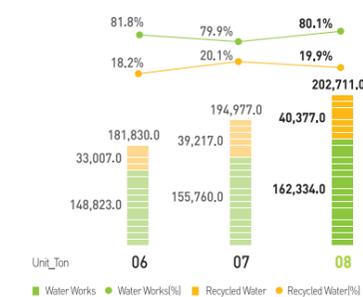
Korea National Housing Corporation uses approximately 20% of the total water for bathroom toilets, urinals, and landscaping. The quantity of water used at the main office and regional headquarters during the past 3 years is 200,000 tons.

Since the waste water from the main office and regional headquarters is being processed altogether by the local sewage treatment plant, there is no environmental impact by waste water.

### Green Purchasing



### Quantity of Water Used



# Environmental Cooperation

Nature and Human

## 'Let's Experience Energy-Saving' Education



## External Cooperation in Environment Area

### Environment seminars held

We sponsored the 2008 Environmental Impact Assessment Spring Summit under the theme of the 'Great Korean Peninsula Canal and participated in international conferences like the 'Technology to Respond to Global Warming by Construction Stage.' We are maintaining external cooperation by taking part in various environmental conferences.

### Support for the Meeting of the Conference of the Contracting Parties to the Convention on Wetlands

In 2008 we have worked for environmental conservation by installing and running an information booth during the 10th meeting which was held under the theme 'healthy wetlands, healthy people,' and creating wetland biotopes.

### Pro-environmental activities with NGOs

Using event support funds and matching grants, each department of the main office and regional headquarters is cooperating with environmental NGO for environmental conservation

### Energy-saving education

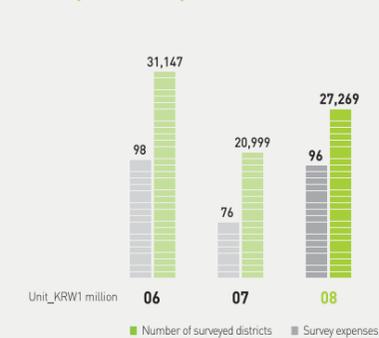
We provide many educational opportunities of energy-saving experience training: e.g. opening the district heating facilities that use incineration heat to the public, and hosting solar car assembly events.

### Cultural properties protection activities

To prevent damage to cultural properties due to large housing site developments, we are looking for various solutions such as the prior surface survey.

As a result, a history park in 2 districts of Gwangju Dongrim, a medal museum in Busan Jeonggan, a park for Neolithic remains in Ansan Singil were built as part of the multilateral efforts to conserve and utilize cultural properties within housing development districts.

## No. of Districts Surveyed for Cultural Properties & Expenses



## External Evaluation of the Environment-Friendly Development Efforts KNHC (2008)

### Humansia of Mt. Gwanak



A prize winner in the apartment category of the Korea Architecture Award

### Humansia of Euiwang Cheonggye



Winning the Ministry of Land, Transport and Maritime Affairs award in the apartment category of the Environment-friendly Housing Culture Award

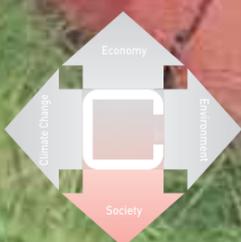


## To Make Space a Joyful Community

A place full of endless  
happiness and laugh,  
A place for better future  
and more dream,  
KNHC provides people for  
a joyful community

Creating Sustainable Space | To Make Space a Joyful Community

### The Space of a town you will enjoy the pleasure of life



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# Disclosure on Management Approach

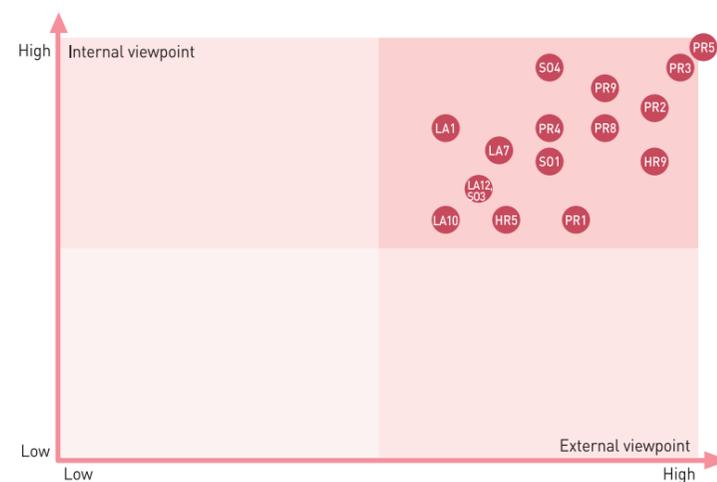
## Social mission of KNHC

As the economic slump is getting longer and income polarization is becoming more severe, the demand for housing welfare of the socially vulnerable classes is higher than any other time. Starting from policy-making, Korea National Housing Corporation has established a cooperation and support system with the government such as plans for the supply of rental houses and the reduction of housing expenses and the plans for the construction of Bogeumjari housing and the support for housing welfare policies to make our country a better community to live.

## Core performance indicators chosen by stakeholders

GRI G3 guideline presents 40 social performance indexes including employee status. As a result of a survey of the internal and external stakeholders, a total of 18 indices including employee status, career education programs, and anticorruption performance have been selected as important social performance indices that will contribute to the sustainable growth and development of Korea National Housing Corporation.

Society Performance Indicators



## 2008 Performance by Major Performance Indicator

- [LA1]No. of employees and non-regular workers: As of 2008, the total number of employees is 4,204, and 1,090 non-regular workers are assisting rental and housing welfare businesses.
- [LA7]Employee safety performance: Lost workdays are increasing despite the decrease in employees. As of 2008, the site accident rate is 0.38%, which is lower than the average accident rate of the construction industry.
- [LA10]No. of training sessions per perso: As of 2008, number of training sessions per person is 8.9, a 36.9% increase compared to last year.
- [LA12]Proportion of employees subject to performance evaluation: In 2008, 81.4% of the all employees was evaluated, a 6.4% increase compared to last year.
- [HR5] Measures to protect the rights of minorities, such as the disabled, females and management: In 2008, 3,871 people took the sexual harassment prevention education over 6 classes, and the ratio of women holding upper positions increased 2.13%, employment rate of disabled increased 2.05% than last year.f
- [HR9]Guaranteee of the rights of original residents: The re-settlement rate of original residents over the past 3 years has been exceeding an average of 40%.
- [SO1]Regulations concerning various impact assessments: When the development of a district is certified, according to related regulations, we are conducting various impact assessments focused on the factors that have great impact on the local community such as the environment, transportation, disasters, and population.
- [SO4]Punishment of corrupt employees and anti-corruption measure: In 2007 and 2008, 16 anticorruption employees were punished. Korea National Housing Corporation is taking strict anticorruption measures such as the three-strike system for corrupted employees and extending the promotion restricted period to 2 times the original period.
- [SO3]Integrity education: We are running a cyber ethical management program, and the average time employees went through ethical management education is 17.26 hours, an approximately 1 hour increase compared to last year.
- [PR1]Examples of health and safety evaluations in the operational phase: To remove all remaining toxic chemicals, we are using natural air circulation system or hybrid air circulation system, along with mechanical air circulation system.
- [PR2]Efforts to comply with laws and regulations concerning customer health and safety: We are keeping indoor air quality below the regulation standards.
- [PR3]Information disclosure for customers: In 2008, we manufactured and distributed 1,000 cubic - vinyl house residents support guidelines, and 30,000 brochures on the settlement of housing welfare business complaints and the use of lottery funds. Also, in case of houses to which ceiling sale price is applied, we are transparently providing the sale price of 61 items including housing site costs and construction expenses.
- [PR4]Efforts to comply with laws and regulations concerning the provision of product information: Korea National Housing Corporation does not do false advertisements.
- [PR5]Customer satisfaction survey results: We continue to receive a high score of over 80 points on the public corporation customer satisfaction surveys every year, and 90 points on the National Rental Housing complex resident housing satisfaction survey.
- [PR8]No. of complaints received and handed: The number of complaints is constantly rising, but we are seeking for ways to actively respond such as providing answers to 100% of the complaints through monitoring.
- [PR9]Compliance with fair competition laws and regulations: We have no cases of violation in 2007 and 2008.

## Strategies approach to the social mission

In 2007, Korea National Housing Corporation newly defined the stakeholders. The relationship between the stakeholder and KNHC was defined clearly by the policy phase, and through this, the new mid-long-term management strategy vision and missions were established.

Through fair and clear interaction with every stakeholder, including customers, the government, the local governments, and the civil society, we will play our role as a member of the society, and take full responsibility as a public corporation that takes care of the people's housing welfare.

For this goal, we are actively reflecting ideas of ethical management and social contribution in our mid-long-term management strategies, and we are carrying out various education and trainings and have established a goal of customer success to pursue the satisfaction of external customers through the satisfaction of employees, who are the internal customers.

## ▼ Stakeholder Management of Korea National Housing Corporation



## Interview with the external stakeholder \_ Ji-Ae Yim, director of the corporate social responsibility solidarity team, the Korean Federation for Environmental Movement

### • The vision for sustainability management must be made clear

Korea National Housing Corporation must support the socially vulnerable classes who are experiencing housing shortage and play its role to systematically develop our land. To resolve housing shortage, KNHC must focus its energies on housing welfare, rental housing business, and must present a role-model for the housing and urban development of the government. For this to happen, Korea National Housing Corporation must go back to the basics and once again be fully aware of its founding purpose. For the sustainability of land development, a blueprint for the appropriate arrangement of housing spaces is needed. Reckless development irrelevant to housing site development must be avoided, and a roadmap for suitable decisions must be developed. Providing information to prepare spaces is the basics of public interests, and I think that new housing development models other than the original renewal, redevelopment, and reconstruction must be presented. Also, constant internal efforts is necessary to fight construction corruption. The reason why the ethical management system is vulnerable to construction corruption lies within the internal system. Therefore, the stricter ethical regulations and disciplinary measures are needed. For these efforts to bear fruit, Korea National Housing Corporation must prepare a clear vision and execution system for sustainable management.

### • Establishing the role of an enterprise on the leading edge of time

By actively prescribing the idea of the key values (low carbon green growth) the government is promoting, the corporation's roadmap must be established to satisfy both public interests and growth needs. Environment-friendly materials must be continuously developed to respond to environmental and climate change, and the image of a leading corporation must be shown through the image of an energy-friendly company. For this, KNHC must interact with the external stakeholders with an open mind. For example, if KNHC carries out studies and researches for sustainable housing sites and housing construction in cooperation with external stakeholders and create an opportunity to show the outcomes to the world, it will have a positive influence on establishing the reputation of Korea National Housing Corporation.

## Ethical and Transparent management KNHC practices clean and sincere management

We are working to improve integrity by strengthening the ethical management regulations and anti-corruption measures, and carrying out continuous ethical management education. While we activate our inspections, we are improving our transparency by simplifying the bidding and contract processes.

### Ethical Management Activities

#### Anti-corruption system strengthened

16 anticorruption employees were punished in 2007 and 2008. Korea National Housing Corporation is taking strict anticorruption measures such as the three-strike out system against corrupted employees and extending the promotion restricted period to 2 times the original period.

#### Ethical code for stronger implementation

In 2008, we built an organized performance management system by preparing a ethical management execution system and designing plans by area, and we declared our will for ethical and open management through the '100% clean Jugong' proclamation ceremony.

Also, we developed 'JU人GONG', which symbolizes the integrity innovation and customer service brand that customers[人] and KNHC[  ] will be together, and we are working on our ethical management activities with the internal and external stakeholders.

#### Channels for monitoring customer complaints and corruptions

We are running 'Clean Jugong,' and 'Corruption report center' through our homepage and building a two-way communication channel by operating a 'management control room' in the internal intranet. Through this, we are showing the will for integrity of the CEO, monitoring customer complaints and irregularities and corruption among employees, and accepting management ideas from employees.

#### Learning for ethical management

By systemizing ethical integrity education by each area and preparing execution programs proper to each class and phase, we are working in various ways to improve ethical awareness.

We are carrying out a cyber ethical management program, and the average time employees went through ethical management education is 17.26 hours, an approximately 1 hour increase compared to last year.

#### Integrity evaluation by public agency

We are making a comprehensive effort to make a clean Jugong by preparing a integrity improvement comprehensive measures.

### Transparent Management

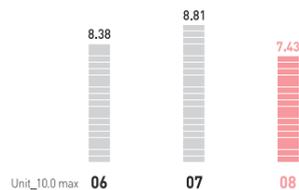
#### Expanding KNHC's management disclosure system

By voluntarily disclosing information and continuously identifying items subject to public disclosure, we are raising public trust in KNHC. We added 5 items, i.e. CEO's expense account, management innovation, return to society, R&D, and facility operation status in 2008, and specified the name of the discloser, supervisor and verifier in the integrated disclosure system called 'Aligo' to reinforce accountability for and accuracy of disclosure.

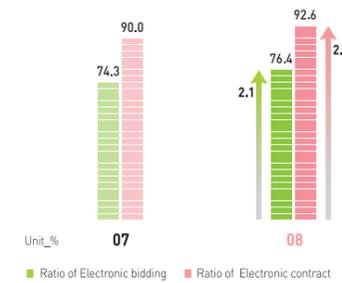
#### Establishing a prevention-oriented surveillance and monitoring system

We are improving our effectiveness by arranging the 'integrity JCC system,' which is an advanced preventive inspection system, and an examination system for ethical and integrity activities. As we have

#### ▼ Integrity Evaluation by Anti-Corruption & Civil Rights Commission



#### ▼ Expanding Electronic Bidding and Contracts



actively carried out the improvement of systems through this, our advanced preventive inspection system has stood out as a good example, and is being benchmarked by other organizations. We have also been recognized for excellence in sustainability management by UNGC.

#### Expanding electronic bidding and contracts

To improve the transparency of the bidding and contract processes, we are continuously expanding the ratio of electronic bidding and contracting.

#### Checking the internal accounting management system

According to accounting standards and best practice, we have checked the internal accounting management system in 2008 to ensure the reliability of financial information and the objectivity of internal control procedures.

The inspection revealed that seven items needed improvement including the lack of control and evaluation of predetermined cost, the absence of the compensation bond control procedure, and we took appropriate measures.

### Employees Ethics Code

#### | Preamble |

Proud of having played an important role in housing stabilization and urban development since its foundation in 1962, Korea National Housing Corporation will be reborn as a corporation that serves the public better and is more trusted by the public by proactively practicing ethical management. Accordingly, KNHC will establish and practice proper ethical values as a public corporation to set an example in ethical management. In performing our duties we will build a community of cooperation with all stakeholders on the basis of legality, transparency and impartiality, and pursue mutual prosperity. We will try and become a public corporation that will satisfy customers and create new values by providing the best products and services for our customers. As a social entity fulfilling our responsibilities and duties, we will make efforts to contribute to the sustainable development of the country by participating in public activities and taking the lead in conservation of nature and environmental protection.

#### Chapter 1 General provisions

- Article 1 ( Object )
- Article 2 ( Scope of application )

#### Chapter 2 Basic attitudes of employees

- Article 3 ( Establishing clean and upright ethics )
- Article 4 ( Fulfilling mission )
- Article 5 ( Self-development )
- Article 6 ( Fair execution of duties )
- Article 7 ( Avoiding conflict of interest )
- Article 8 ( Prohibition of excessive profits, etc. )
- Article 9 ( Distinguishing official affairs from private affairs )
- Article 10 ( Interrelationship between employees )
- Article 11 ( Sound life )
- Article 12 ( Transparent information and accounting management )

#### Chapter 3 Responsibility to customers

- Article 13 ( Respect for customers )
- Article 14 ( Customer satisfaction )
- Article 15 ( Protecting the interest of customers )

#### Chapter 4 Establishing fair and transparent transaction order

- Article 16 ( Compliance with transaction laws and regulations )
- Article 17 ( Fair transactions )

#### Chapter 5 Responsibility to employee

- Article 18 ( Respect for employees )
- Article 19 ( Fair treatment )
- Article 20 ( Fostering talent and promoting creativity )
- Article 21 ( Improving the quality of life )

#### Chapter 6 Responsibility to the state and society

- Article 22 ( Contributing to the development of the state and society )
- Article 23 ( Prohibition of improper political activities )
- Article 24 ( Safety and prevention of danger )
- Article 25 ( Environmental protection )
- Article 26 ( Labor-management harmony )
- Article 27 ( Compliance with international business standards )

#### Chapter 7 Transparency of information and financial management

- Article 28 ( Installation of the ethical management committee )
- Article 26 ( Operating principles )

#### Supplementary rules

## Social Contributions

We promote contribution activities systematically



### Development of a Social Contributions brand

#### 희망작기

13 activities (KRW 2 billion)

- Remodeling for the disabled
- Remodeling for the socially vulnerable classes
- Free safety checks for the working-class housing
- House renovations for persons who made distinguished contribution to independence
- Deposit-based lease and monthly lease support center etc.

#### Carrying Out Effective Social Contribution Activities

40 activities (KRW 2.9 billion)

- Mom's kitchen
- Dream start for juvenile heads of households
- Group wedding ceremonies for residents
- Children's Day events and KNHC tour
- 1 house 1 village help-the-rural-community campaign, etc.

#### 희망나누기



For more comprehensive and systematic social contribution activities, we are securing organizations and financial resources and improving related systems.

### To Give More People Benefits - Improving our social contribution system

#### Plans to systemize Social Contributions

After evaluating the social contribution activities, we will discontinue those that its effectiveness are low and concentrate our abilities in activities that shows great social contribution to develop and systemize our social contribution brands 'Building hope' and 'Sharing hope.' We have systematized our Social Contributions by putting 13 activities including housing repair customized for the disabled, housing improvement for persons of distinguished services to independence, and operation of the deposit-based and monthly rent support center under 'Building hope,' and 40 activities including Mom's kitchen, dream start for juvenile heads of households, and joint weddings for residents under 'Sharing hope.'

#### Social contribution funds and social service group

According to the social contribution mid-long-term strategies, we have expanded our basis of social contribution activities by organizing the Steppingstone volunteer group, doubling the matching grants, developing social contribution brands, and introducing volunteer work vacation system and mileage systems. As a result, 10.12 hours of volunteer work per person in 2007 increased 10% to 11.14 hours. Furthermore, we expanded our beneficiaries by organizing 'OB volunteer group,' a social volunteer organization comprising of retired employees. The 'Jugong OB volunteer group,' which was organized in October, 2008, is carrying out various volunteer works such as purchase rental housing management supporters, weekend teachers permanent rental complex, and running energy-saving experience classes.

### Social Contribution Activities Using Core Capabilities

#### House repair customized for the disabled

In 2008, we jointly carried out the 'house repair customized for the disabled' business with the Ministry of Health, Welfare, and Family Affairs, and remodeled a total of 20 houses for the disabled in Seoul and Busan, spending KRW130,000,000 in working expenses.

#### Repair of social service facilities

The Stepping stone volunteer group of each district is remodeling houses and welfare facilities for the low-income groups and elderly people living alone to improve residential environments of socially vulnerable classes.

#### Mentoring for juvenile heads of households (The Dream start campaign)

By organizing a industry-university cooperation system with local universities, we are helping juvenile heads of households, single-parent families and children living with their grandparents who are receiving housing support from Korea National Housing Corporation with their studies and guidance. We are also regularly doing volunteer work such as hosting essay contests.

#### Assistance to the disabled in group homes

While providing part of the purchase rental houses to social welfare organizations in charge of the remedial activities of the disabled to use as group homes, we are continuously doing regular volunteer work by understanding the needs by group home.

#### Improving residential environment with those ordered to provide welfare service

In cooperation with the Ministry of Justice, we have connected volunteer work of those ordered to provide welfare service with our residential environment improvement projects for the needy. Through this, 10,602 houses of the elder living alone, juvenile heads of households, and disabled people were newly papered, and we plan to expand our beneficiaries to include single-parent families, etc. to provide more diverse housing welfare services.

## Customers

We choose responsibility management to think once more in the customers' perspective

### Diversifying Housing Welfare Programs



We are realizing housing welfare of people by providing various rental houses considering the socially vulnerable classes

### Various Housing Welfare Programs for the Socially Vulnerable Classes

#### Constructing the National Rental Houses for the elder

By introducing barrier-free designs that consider the convenience and safety of seniors when building houses, we are promoting the National Rental Houses for the elder. We constructed 79 the National Rental Houses in Gimjae Hadong in December 2008, and we are planning to build 335 in 2009, and 770 in 2010 across 5 districts.

#### Housing support for cubicle and vinyl house residents

Korea National Housing Corporation founded the 'Housing Welfare Foundation,' a non-profit organization, in 2007, and built a housing support system in cooperation with related organization to help the self-support of cubicle and vinyl house residents. In 2009, they will move into 172 houses

#### Emergency housing support for the vulnerables in a crisis

We have prepared an emergency housing support business for the needy who are in a crisis due to the lagging economic slump. After consulting with the government and NGO, we expanded the scope of support limited to multi-unit tenement rental housing, deposit-based rental housing include national rental housing, unsold purchase rental housing and default rental housing. Housing support for 835 houses was provided in 2008, and emergency housing support will be widely expanded to 2,000 houses in 2009.

#### Group homes

A group home is a housing welfare program that helps children, teenagers, and the elder who are in difficult situations to live together in a ordinary homes and receive necessary services in daily life from social rehabilitation educators who help them to gain social independence.

In 2005, we supported disabled people to move into 23 group homes, and in 2006, we expanded our support to runaway teenager, the elder, unmarried mothers, protected juveniles to support a total of 373 group homes. An additional 205 in 2007, and 174 homes in 2008, adding up to a total 483 homes were given group home support.

### Housing Support for Vulnerable Classes

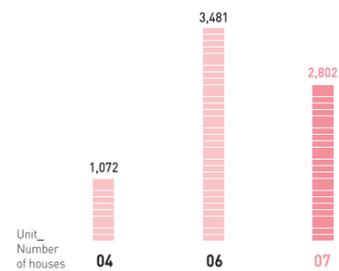
Recipient	08	Sum(04-08)	Recipient	08	Sum(04-08)
Beneficiary of national basic livelihood support	8,606	23,573	Group home	174	483
2 <sup>nd</sup> lowest income bracket	1,111	2,846	Cubicle dwellers	343	462
Single-parent family	1,279	2,537	Loners including houseless	90	191
Disabled people	365	943	People subject to relief and rehabilitation	157	452
Juvenile heads of households	1,020	4,579	Low-income newly weds	185	185
Tenant of bankrupt rental housing	5,386	5,885	<b>Total</b>	<b>18,716</b>	<b>42,136</b>

# Customers

We choose responsibility management to think once more in the customers' perspective



### ▼ Social Mix Complex Construction Status



### Supplying Social-Mix Houses to Resolve the Difficulties of Rental Housing Residents

Since rental housing residents are socially isolated and are having conflicts with local residents, we are promoting the construction of a social-mix complex that mixes the National Rental Housing complexes and sale housing complexes to resolve the social difficulties of rental housing residents. We are seeking for a plan that minimizes the sense of incongruity among residents by devising a reasonable design standard by type, and improves the image of rental houses.

#### ▼ Social Mix Complex Construction Status and Types

Contiguous Arrangement	In Separate Buildings	Mixed in the same building	Core Combination
Housing complexes for sale and rent are next to each other	Buildings consisting of houses for sale and rent will be mixed in the complex.	They will be mixed in the same building, sharing the common space.	They will be mixed in the same building, but have separate main entrances.
Part of the exterior wall materials and outdoor facilities are upgraded to reduce the sense of incongruity	The finish materials from outside the building to the entrance of the main building will be the same as those of the houses for sale.	The finish materials from outside the building to the front door of the household will be the same as those of the houses for sale.	

### Supplying High Quality Low Price Houses for Housing Stability of Houseless People

For housing stability of houseless people, Korea National Housing Corporation selected and has been carrying out the 'tasks for high quality low price houses' in December, 2008. A total of 41 tasks are carried out with a goal of reducing 15% of sales price and 40% of management expenses, and through this, we plan to strengthen our public role as a public corporation responsible for the people's housing welfare.

#### ▼ Plans to Supply High-Quality, Low-Price Housing



### Customer Relationship Management System

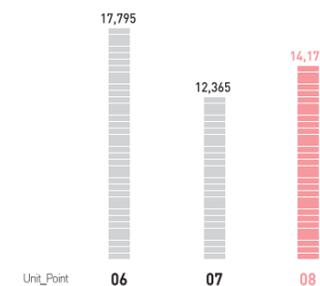
In conformance to the public corporation advancement policy of the government claiming to be the 'Serving Government,' we are further reinforcing customer-oriented business processes.

### Communication with Customers

#### From various channels

We are collecting customers' opinions through various channels including the customer monitoring team, advance examination of residents, the Ju-Ju monitoring system, and receiving ideas from home-makers, etc. Furthermore, we are working to reflect the opinions of external customers in our management in ways such as rewarding customers who have submitted great suggestions to the customer proposal center. Public complaints are being comprehensively monitored and answered 100%. The total number of public complaints in 2008 increased 10.1% compared to the previous year. By type, complaints regarding sale and rent, construction, facility management, housing site and redevelopment, housing management were received the most in lessening order, and showed that sale-rent-related complaints were filed the most as last year. After the inauguration of the new government, there was a rapid increase in inquiries about the introduction of the subscription point-adding system and various real estate deregulatory measures. To realize public complaint services that place customers as first priority, Korea National Housing Corporation is continuously improving its complaint handling system by strengthening its customer service standards.

#### ▼ Online Complaints



#### ▼ No. of Complaints Handled and Contents by Year



#### ▼ Tenant Representative Assembly Status (As of December, 2008)

Average	Permanent Rental	National Rental	50-Year Public Rental	5-Year Public Rental
48%	29%	48%	45%	86%

#### Encouraging participation in management by reinvigorating complex communities

We are encouraging the participation of residents in management to improve housing satisfaction by making community space through arranging the residential environment of the complexes, and establishing multipurpose welfare facilities for active resident activities. Furthermore, we are trying to reinvigorate the permanent and the National Rental Housing communities by establishing a plan to activate tenant participation in public rental housing. For this, we are actively supporting the organizing of a tenant representative assembly, and encouraging the participation of tenants in management businesses. In 2008, 48% of all the complexes organized a tenant council, and by region, Incheon, Gyeonggi, and Seoul had the most in lessening order.

#### Customer service center and efforts to protect information

We have opened a customer service center to provide visitors to our main office one-stop consultation services at a comfortable place. Also, we are making efforts in various ways to protect customer rights and information by designing 'measures to prevent the leakage of personal information on the homepage,' and offering friendliness and safety education to employees of service companies.

### Customer Health and Safety

#### Aiming at housing performance grade 1

In apartment complexes with more than 2,000 houses, according to the housing performance rating system introduced in January 2007, housing performance grades must be indicated in 5 categories: noise, structure, environment, living environment, and firefighting. Aiming to acquire grade 1 in all complexes, Korea National Housing Corporation has been winning a certain level or higher not only in districts where performance indication is mandatory, but also in ordinary districts.

## Customers

We choose responsibility management to think once more in the customers' perspective

### IAQ Measurements of Lease-Sale Apartments

(Unit : µg/m<sup>3</sup>)

Category	Indoor Air Quality Measurements	MOE Standard
Benzene	3	30
Toluene	374	1,000
Ethyl Benzene	26	360
Xylene	38	700
Styrene	19	300
Formaldehyde	74	210

Note) Measured: 2007.1.1~2008.12.30/  
MOE : Ministry of Environment, Korea

### Elevator Failure Rate Per Month in Rental Housing



### Example of a Resident Pamphlet



### Improved IAQ

Korea National Housing Corporation has established and has been complying with the 'the toxic emission standard for finishing materials' the first in Korea, in December 2003.

To remove the remaining toxic chemicals that were not taken care of during the designing and construction process, we are using the 'natural air circulation system' and 'hybrid air circulation system (natural + mechanical)', and the 'mechanical air circulation system.' Since October 2004, we have been working on indoor air quality management by doing 'Bake-Out' to every newly constructed house to keep the indoor air clean. We are also distributing resident the guidelines to prevent sick house syndrome.

### 'Well-being cleaning service' for customer appreciation

To customers living in apartment complexes over 1~4 years old, we are providing 'cleaning services' and 'well-being services' including sterilization, disinfection, etc., and 'window services' to clean places like balcony windows and screen windows.

### Strict safety management for rental houses

According to the public housing safety management master plan formed in 2006, we are improving various problems in advance by carrying out safety inspection every season for infrastructure within the public housing complex.

### Model 'barrier-free' apartment complex

To make a safe and pleasant housing complex and healthy apartment, we are promoting our plans to create a barrier-free model complex. Barrier-free spaces refer to human-centered spaces where the disabled, children, the elder, and pregnant women can move around without the help of others, and does not give visual isolation.

We have carried out a barrier-free national rental housing construction business focused on the convenience and safety of the elder, and supplied 79 National Rental Houses in Gimjae Hadong in December, 2008. We plan to expand our supplies to 335 in 2009, and 770 houses in 2010.

### Creating a model complex using the Crime Prevention Through Environmental Design (CPTED) method

Reflecting the concerns of the social uneasiness due to recent crimes, we have created a model complex that has applied the CPTED method, and supplied 854 houses to Cheonan Shinwol in October, 2008. CPTED (Crime Prevention Through Environmental Design) allows you to controls entry from outside by means of CCTV, alarms and locks, and pays attention to the location of guardhouses and the function of streetlights. It refers to the comprehensive application of crime-prevention designs to architectural designs or urban planning.

### Product Information Servicing

#### Easy and fun cartoon leaflets of housing welfare business

To deliver the knowledge of the housing welfare business easier and more fun, we have made a housing welfare cartoon leaflet. With details on application procedures, instructions from selection to contract, etc., we have distributed twice, each 30,000 copies, to the local governments, related organizations, and residents.

#### Brochure on solving the difficulties of the housing welfare business and the use of lottery funds

By providing 23,000 copies of brochures on solving difficulties of the housing welfare business and the use of lottery funds to residents at purchased rental and deposit-based rental housing, and juvenile heads of households, we have allowed them to access related information more easily.



### Cyber Model House

To allow customers to easily access the information needed, we are leading the introduction of cyber model houses. 7,353 houses in 9 districts in 2007 have been expanded to 13,011 houses across 14 districts in 2008.

### Thoroughgoing Compliance with Laws and Regulation

#### Pamphlets for housing information and compliance

Korea National Housing Corporation is accurately providing information on sale, materials used in rental houses, indoor structure, surrounding space and environment, location, etc. through the sale pamphlets. Also, in case of houses to which ceiling sale price is applied, we are transparently providing the sale price of 61 items including housing site costs and construction expenses.

#### Compliance of marketing regulations

Marketing communication has influence on the customer's intentions and purchasing decisions, so accurate information that does not interfere with the customer's judgment must be given in a suitable way. All the advertisements of Korea National Housing Corporation are being presented in a fair manner, and we do not have any cases in which we violated the regulations regarding product and service supply, and labeling.

### Public Corporation Customer Satisfaction Level

We have been maintaining a high customer satisfaction rating by receiving more than 80 points every year in the public corporation customer satisfaction ratings conducted by the Ministry of Strategy and Finance.

#### Public Corporation Customer Satisfaction Level



### Customer Satisfaction Level

By conducting housing satisfaction degree for the National Rental Housing complex residents, we are preparing plans to improve customer satisfaction regarding housing quality, employee attitudes, repair services, etc. In 2008, the housing satisfaction index was 97.50 points, a 3.4 increase compared to the previous year.

#### The National Rental Housing Resident Satisfaction Survey



## Government/Local Governments

We take social responsibility in compliance with government policies

### ▼ No. of Dispatched KNHC Employees



### Actively conduct joint research project

As our R&D is gaining more recognition, researches commissioned by government agencies such as the Ministry of Land, Transport, and Maritime Affairs, and requests for joint research from other companies and research institutes are constantly increasing. We carried out commissioned researches worth KRW13.5 billion in 2007, and KRW 9.266 billion in 2008. There were a total of 6 cases in 2007, and 8 cases in 2008 in which we supported government policies through our research results.

### Efforts to improve the understanding of government policies

We are trying to improve the understanding of the policies by dispatching employees to related organizations such as the Ministry of Land, Transportation, and Marital Affairs, and the Board of Audit and Inspection of Korea, and by quickly receiving the trends in policies through 'urban policies-W,' the company policy review magazine.

### ▼ Establishment of Key Housing and Urban Policies and Support for Improving Systems

<b>Bogeuinjari Housing Policy</b>	<ul style="list-style-type: none"> <li>Analyzing housing site, housing supply and required resources, and providing review data</li> <li>Supporting the enactment of the special act on Bogeuinjari housing</li> <li>Reviewing improvement of related systems, such as lowering sale prices and advance reservation system</li> <li>Supporting the amendment of laws and regulations related to installment rental housing supply</li> </ul>
<b>Green Growth Policy</b>	<ul style="list-style-type: none"> <li>Supporting the policy for the construction of 1 million Hi green homes (IT + green home)</li> <li>Conducting researches to realize Hi green home policy</li> </ul>
<b>Urban Renewal Policy</b>	<ul style="list-style-type: none"> <li>Supporting the amendment of the act on the maintenance and improvement of urban areas and dwelling conditions for residents and the urban improvement promotion act</li> <li>Supporting urban renewal R&amp;D projects (currently in phase 3)</li> <li>Suggesting that National Assembly forum be organized → hosting policy debates and registration as National Assembly research organization (December 2008)</li> </ul>

### ▼ Setting Goals Linked to Government Policies



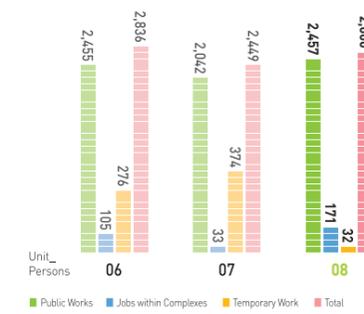
### Reinvigorating cooperation with the local governments

We are carrying out collaborative businesses by entering into 28 basic agreements: e.g. participating in the Hongseong Development business, conducting services for the Danyang Development business, and signing an MOA to improve housing welfare and local development in Hwasun-gun.

## NGO/Local Communities

We promote development with local residents and society.

### ▼ Jobs for Rental Housing Tenants



### ▼ Local Resident Compensation Area and Amount



### ▼ Creating memory spaces for original Residents



### ▼ Percent Resettled Original Residents in Residential Environment Improvement Business



### Consideration of local communities through impact assessments

When the development of a district is certified, according to the related regulations, we are conducting various impact assessments focused on the factors that have great impact on the local community such as the environment, transportation, disasters, and population.

### Provision of cultural facilities

To allow the auxiliary welfare facilities in the complex to do its role as the center of the local community, we are carrying out the development of a 'life and culture center' that integrates the functions of a neighborhood living facilities, and a culture and welfare center in apartments complexes having more than 1,000 households. Also, we are planning to build a history park in the Gwangmyeong station impact area and a library and complex community center in the Yangju Hwaechon district, and we are making various efforts to provide convenience to the local community by building social welfare facilities and a library in the Osan Segyo district.

### Promotion of local subcontracting

To reinvigorate the local economy, our screening regulations include contents on purchases and subcontracting of local companies. The subcontracting ratio of local construction sites is 30.56%, a 1.2% increase than the previous year.

### Job opportunities for tenants

A total of 2,660 residents were employed through our job placement program to households with difficulties.

### Protection of original resident's rights

For housing stability and protection of living rights of the original residents who have lost their living basis due to public projects, we are providing relocation housing lots, houses, shopping center sites, settlement funds, relocation expenses, etc.

### Assistance for resettlement of original residents

When improving the residential environment, we make sure that the gains from the disposal of national and public land within the city limits can be deducted from the housing prices, and support the resettlement of needy original residents by expanding the deposit-based rental funding for people who need to be relocated. Also, we are improving the sense of loss and negative opinions towards development of the original residents by creating memory spaces and cyber home towns.

### Local community cooperative committee

By organizing a industry-university cooperative system with local universities, we are providing various welfare services necessary in growth to low income children who receive free deposit-based rental houses from Korea National Housing Corporation.

### Cooperative system with NGOs

In cooperation with professional welfare organization such as NGO, we are providing diverse life and welfare services to low-income residents.

The 'life and welfare centers,' operated in 10 areas across the country in cooperation with the Citizens for Decent Housing Co. Ltd., were selected as a 'agency-initiated social work project' and are receiving KRW 6 hundred million of budgets; 5,411 people are working for employment support, and 2,362 for study rooms. Furthermore, after reflecting the opinions of civic groups of various areas such as housing, city, and environment to our administration, we have prevented unnecessary social conflicts beforehand, and we are holding quarterly talks with housing welfare NGO to improve the public benefits of our business activities.

## Supply Chain Management

We make a healthy construction site culture with our win-win partners

### Wholesome Subcontracting Discipline

#### Win-win culture in construction

We are working to consider construction field workers as our win-win partners, and to create a cooperative culture.

In 2008, a coordinating committee with 5 external experts in Ansan Shingil was organized, and conflicts concerning the extension of the construction period due to the strike of the construction labor union were rationally resolved.

#### Active response to construction site complaints

In 2008, we analyzed the trend of public complaints and established a 'construction complaint comprehensive response plan' for stable field management, and prepared active measures on the increase of group complaints dealing with the economic slump of the construction industry, bankruptcy of construction companies and the worsening liquidity.

#### Resolution of subcontractor wage payment delays

We are doing our best to protect the economic rights of workers even in cases when subcontract companies go bankrupt and overdue wage occurs. In 2008, we cleared 100% of the 110 complaints on overdue wage.

#### Safety management at work sites

To prevent safety accidents from happening on construction fields, we have introduced the danger evaluation system by work type in 2008, and we have also carried out training of 5,678 foreign workers and safety check and diagnosis of vulnerable areas.

As a result of these efforts, we have been selected as the best institution in national disaster training and disaster response by the Safety Administration Department of the Ministry of Land, Transportation, and Maritime Affairs.

The field disaster rate in 2008 of Korea National Housing Corporation was 0.38%, a much lower rate than the average of the construction industry.

### Compliance of Fair Competition Rules

In 2007 and 2008 we received no corrective recommendation from the Fair Trade Commission. Korea National Housing Corporation will constantly work to improve business practices.

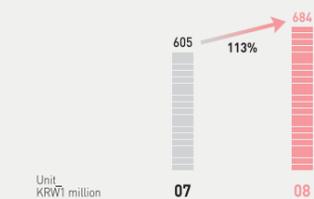
### Efforts to Improve the Competency of Small Businesses

To improve the technology development abilities of small businesses, we provided 60.5 billion in 2007 and 68.4 billion in 2008 of technology development expenses. Through this, we were able to encourage small enterprises to develop technology, and improve the product competitiveness of Korea National Housing Corporation.

#### ▼ Hazard Rate



#### ▼ Technology Development Expenses Support for Small and Medium Enterprises



## Employees

We establish the basis of customer services by satisfying employees

### Employee Status

Including 7 directors, we have a total of 4,204 regular employees, and 1,090 non-regular workers working in rental and housing welfare businesses. The average length of the employee's service is 13.3 years, and 70.5% of the employees are working in district headquarters. Recently, to ameliorate the problems concerning unemployment of young adults, we have employed 179 young adult interns to work on housing welfare, housing lot compensation, and construction site businesses.

### Gender Equality

Although the ratio of women among employees of class III or higher is low, and there are only a handful of female directors are low, we expect to see an increase in the percentage of women holding upper positions as new hires of women are increasing. We also have plans to employ female managers of more than 5% by 2012.

Furthermore, we are trying to treat male and female employees fairly regarding promotion and remuneration by maintaining the basic salary of male and female employees the same. Korea National Housing Corporation is operating the 'affirmative action in employing females' and is actively making effort to improve the employment environment of female personnel by introducing the 'female promotion quota system' and 'replacement personnel bank system.' As a result, we have been selected as an excellent agency in 'gender equality,' and received an award from the Minister of Labor.

### Human Rights Protection

To protect human rights within the company, we are carrying out sexual harassment prevention education, and making various efforts such as improving the employee difficulty management system. While we are paying attention to the protection of the rights of minority groups such as the disabled, women, and administrators, labor and management are also working on the protection of human rights by establishing a women's stations in the labor union.

### Compliance with the labor laws and regulations

We are restricting the employment of teenagers through employment rules, and we are observing the requirements on the prohibition of compulsory labor of the Labor Standards Act. Also, we are guaranteeing the monthly pay of new employees at a 206% rate compared to the minimum wage stipulated by law.

### Orientation for sexual harassment prevention

To raise the awareness of sexual harassment problems of employees, we have carried out mindset training, and have been strict about providing sexual harassment prevention education including professional training for counselors. We are continuously providing sexual harassment prevention education of all employees, and 4,185 employees in 2007, and 3,871 in 2008 have completed the education.

### Employee complaint processing

As a window that treats the difficulties of employees ranging from basic labor conditions and discrimination, we are running a grievance service organization comprised of a manager from the main office and local headquarters, and a female representative.

According to need, we are organizing a 'Employee Complaint Review Committee' to protect the rights of the victim and suspect, and for fair examination and treatment. Complaint Center receives complaints via online, hot telephone line and written forms. Complaints are processed within ten days upon submission.

In 2008, 39 were filed, and 25 were handled.

#### ▼ Employees Status and Female Ratio

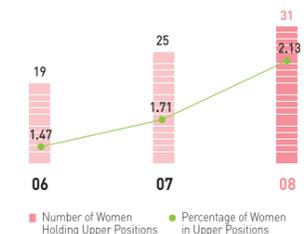


#### ▼ Female New Hires and Ratio



Since KNHC did not hire any employee in 2008, the number of females employed last year is low.

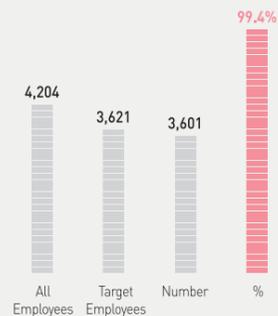
#### ▼ Senior Female Employees and Ratio



# Employees

We establish the basis of customer services by satisfying employees

### ▼ Labor Union Membership by Position



### ▼ Average Training Number per Person by Grade



### More hiring of the disabled

Having introduced the additional points system to disabled people, 10% of additional points are being given when reviewing files. As a result, 103 (1.93%) in 2007 and 109 (2.05%) were employed, and the employment rate of disabled people increased.

As the employment of them has been expanded, we keep living counselors to improve the treatment of disabled employees, and we have improved related policies to fit the reality such as including not only the dependant family members but also the employee as a recipient of the allowance for the disabled.

### Win-Win Labor Culture

Korea National Housing Corporation labor union, founded in August, 1987, offers the membership to employees of class III and lower. It has an Open Shop system in which membership and secession is unrestricted. 85.6% of all the employees, 99.4% of the employees who are offered membership, hold offered membership, and thus, 3,601 employees are members of the labor union.

### Making decisions regarding key issues by mutual agreement between the employee and management

The labor-management council consisting of 6 people from each side (quarterly) and wage collective bargaining (annual) discuss key issues, such as education and training, productivity improvement, and improvement of working conditions, in depth.

### Prior agreement based on collective bargaining

In accordance with the collective agreement regulation, business changes likely to impact employees, such as restructuring and merger, must be discussed with the labor union in advance.

### Talent Nurturing Plan

We are promoting the training of personnel through the HRD (Human Resources Development) strategic system, established in 2008, linked to the mid-long-term administration strategies. Based on employee surveys during training and monitoring, we have calculated the demand for training and are expanding our programs, and as a result, 149% of the competency diagnosis and customized training focused on development has increased compared to 2007.

Also, the education organization was expanded from 1 team to 2 teams and 1 training center in 2008, and the educational and training expenses per person was raised by 107% over 2007. That is, our infrastructure was greatly reinforced.

As a result, the number of training sessions per person in 2008 increased 36.9% to 8.9. While we will emphasize training and education focused on ability and performance, we plan to increase human resources in the HRD organization and education, and expand our education infrastructure.



### Establishing New Performance-Based Personnel System

Korea National Housing Corporation was the first public corporation to introduce the division system, and we improved the HR system with focus on performance to settle autonomous responsible management system. We improved the performance rating system by division, and expanded the targets of performance rating from high-ranking employees to all employees. We reinforced differentiated compensation based on performance, thereby inducing internal competition. In 2008, the performance of 81.4% of the all the employees, a 6.4% increase compared to the previous year, was evaluated.

### Health & Safety of Employees

For the employees' health, we are supporting health examination and medical expenses using welfare points. We also have an infirmary in the company buildings. We are strengthening our industrial safety and health education which is stipulated in the Industrial Safety and Health Act, but loss days are increasing despite the decrease in employees. Designing plans to handle this situation, we will try to minimize the lost workdays due to sick leaves.

### Health & Welfare

We are providing various welfare benefits to regular employees including accident insurance, medical services, injury and disability benefits, maternity leave, retirement grant, children's school expense support, etc., and KRW 69,121,000,000 of fringe benefits for this has been used. Also, we are also providing medical services, allowance for disability, maternity leave, retirement grants, etc. to non-regular workers such as contract employees and seasonal employees. Korea National Housing Corporation is improving the company value through family-friendly administration such as creating a family-friendly culture, improving working environments, and encouraging self-enrichment, and is building a basis for sustainable administration. As a result of these activities, we obtained the highest rating in family-friendliness (AA) from the Ministry of Health, Welfare and Family Affairs in 2008.

### Retirement Management

#### Support for retirement

Under the provision of the Labor Standards Act, we have accumulated reserve for retirement allowance every year, and we guarantee that retirement grants will be given at once considering the length of service and average salary. In view of changes in the internal and external environment and the opinion of the labor union, we are considering introducing the retirement pension system.

#### Life-long learning program

We are providing those who retired due to age and those who retired early with an opportunity to get adjusted to post-retirement life the first 3 months. Furthermore, to ensure that special jobs are performed smoothly, if employees want, we provide financial support and pay for actual expenses for external courses within the limits of budgets after checking their current job and the appropriateness of the courses.

#### Employees Satisfaction Level

Every year, we are conducting a survey on job satisfaction degree for employees and monitoring the results. In 2008, the job satisfaction degree was 3.68 points out of 5, and the degree is constantly increasing every year.

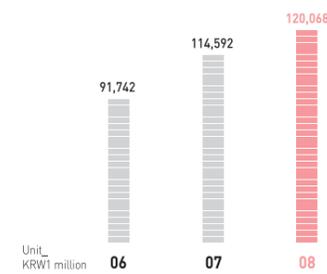
### ▼ No. of Employees on Sick Leave and Lost Workdays

Category	06	07	08
No. of People on Sick Leave	135	291	194
Loss Days	1,247	1,280	1,895
No. of Industrial Accidents	3	1	2

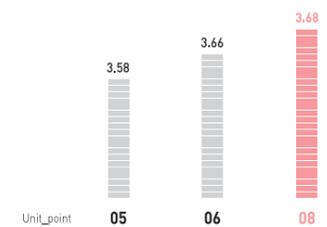
### ▼ No. of Retirees and Turnover Rate



### ▼ Reserve for Retirement Allowance



### ▼ Employees Satisfaction Level

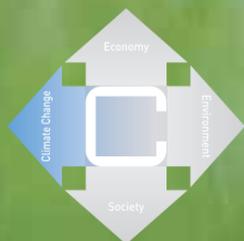




## To Turn Space into a Global Village Enabling a Joyful Life

We, having laid the groundwork in empty space  
for an abundant & warmhearted world,  
now take the lead in responsible management  
for the earth and future generations.

To help the world to continue to be  
a joyful world,  
we will do our best  
to create, a better place.



Creating Sustainable Space | To Turn Space into a Global Village Enabling a Joyful Life

## The Space of a sustainable global village

KNHC's Role for Climate Change  
Creating Green Space  
Research and Development to Reduce Greenhouse Gases

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## KNHC's Role for Climate Change

66

### ▼ The Government's Low Carbon Green Growth Policy and the Role of Korea National Housing Corporation



### The Comprehensive Plan Against Climate Change

- Introduction of carbon intensity and eco-efficiency
- Building 1 million green homes
- Expanding the building energy-efficiency rating system
- Making it mandatory to install renewable energy facilities, such as photovoltaic facilities, in public institutions
- Increasingly turning living waste into energy resources
- Expanding the use of district heating like cogeneration

### KNHC-Related Policies

- Carbon intensity and eco-efficiency are metrics of the cleanness of economic activities and efficiency of resources.

### Interview with the external stakeholder \_ Eui-Shik Yun, the Department of Housing Policies, the Ministry of Land, Transport, and Maritime Affairs

#### • Defining the role of housing and urban construction in responding to climate change

As a public institution for the construction of houses and cities, the role of Korea National Housing Corporation is to make core models of domestic houses and cities. For example, in relation to the low carbon green growth policy of the government, green is in vogue for housing and urban construction as well. New words such as green home, eco-city, and green city are coined, and consumer demands on energy-saving houses are increasing. As external circumstances are changing, private construction companies are also moving fast. As new ideas are being introduced to the domestic construction market, however, it is high time to define them. Korea National Housing Corporation has contributed to the propagation and diffusion of environment-friendly buildings in Korea as a green building certification authority. Likewise, if KNHC presents an example saying that 'this is a green home,' then it will be able to contribute to the establishment of government policies as a public institution, and the houses and cities built by KNHC will set up the domestic standards, and KNHC will become a benchmark for private corporations.

To do so, Korea National Housing Corporation must make constant efforts internally. In the case of Bogeumjari housing complexes that will be created after the deregulation of greenbelts where the ecosystem is preserved, technologies and R&D for housing welfare and construction of environment-friendly housing complexes are required. We must develop new models applicable to Korea by benchmarking various foreign examples such as the passive (energy-independent) house. When these efforts come to fruition, Korea National Housing Corporation will be able to cope with the future by securing cutting-edge technology in housing and city construction, and gain a competitive edge by building a state-of-the-art image.

### Activities conforming to the government's low carbon green growth policy

The Korean government presented the 'low carbon green growth' policy as one of the main policies of 2008. This policy shows the government's will to develop new growth engines by combining climate change with the existing industries, and create new jobs in an economic slump. As a public agency, Korea National Housing Corporation will faithfully comply with the government's low carbon green growth policy. While promoting our proper business areas more efficiently and effectively, we wish to contribute to the sustainable growth of our society by minimizing the impact on climate change in the process of conducting our business.

### Current status of KNHC's low-carbon green growth efforts and its plan

**Introduction of carbon intensity and eco-efficiency** - We are seeking harmony with the ecosystem by constructing energy-saving houses and creating eco-cities, and pursuing a society of low carbon use.

**750,000 out of 1 million new houses are green homes** - 770 houses in the 2nd Euijeongbu Minrak district 2 are Korean-style green homes, and we are planning to increase the number of green homes starting in 2009.

**Expanding houses with energy efficiency grade** - We are continuously developing technologies for diffusion of low-energy apartments, and planning to build 55,000 energy-efficiency grade 1 houses in 2009. We will further increase the number of energy-efficiency grade 1 houses.

**Making it mandatory for public institutions to use renewable energy, including introducing solar systems** - We installed geothermal and solar systems in the Gyeongbuk regional headquarters and Jeonnam regional headquarters to reduce greenhouse gases.

**Turning domestic waste into energy resources** - We are conducting R&D to turn food waste into biomass resources.

**Increasing community energy supply, e.g. cogeneration** - After construction of District Heating supply facilities in the Incheon Nonhyeon district, we acquired the permit for District Heating businesses in the southwestern Daejeon district and Asan Baebang district, and now we are going full steam ahead with District Heating businesses.

## Creating a Green Living Space

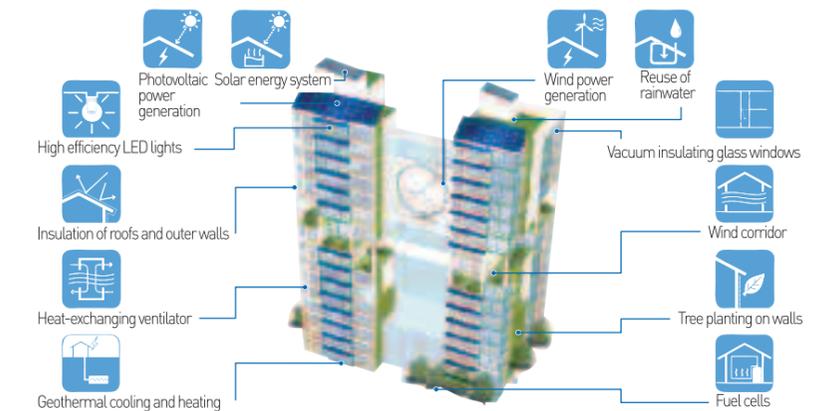
We create a space where people and nature breathe together

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### Green Home, Where Nature Breathes

A green home refers to a house built with environment-friendly planning and designs to provide health, safety and convenience for the residents, and to minimize the earth's environmental load. By designing energy-efficient buildings, using renewable energy, considering harmony with outside nature and utilizing home networks, we will reduce the use of fossil fuel to supply heat and electrical power for houses, thereby responding to climate change and contribute to the prevention of global warming.

### ▼ Green Home



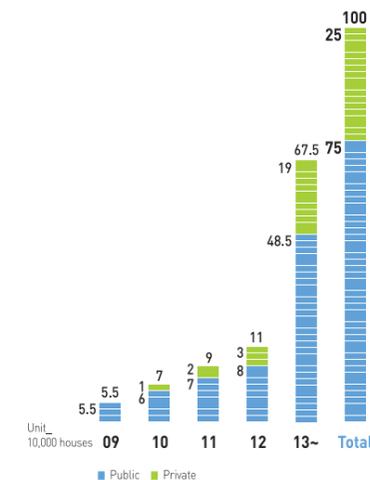
### ▼ Characteristics of the design applied to Euijeongbu Minrak district 2

Design Characteristics	
• Building environment-friendly houses utilizing natural energy, such as solar heat, geothermy	
• Reinforcing the insulating performance of walls and external windows by 15-30%, and adopting the heating temperature home network control method, etc.	

### ▼ Renewable Energy Houses Built

Classification	07	08
National solar rental housing supply business	4,307 houses in 7 districts	5,627 houses in 10 districts
Solar water heater business (applied to the welfare center and management building)	4 districts	3 districts
Geothermal cooling and heating (applied to the welfare center and management building)	3 districts	1 districts

### ▼ Government's Plan to Distribute Green Homes



### Key Outcomes and Plans

#### The 2nd Euijeongbu Minrak district starting a green home pilot project

In accordance with the government's plan to build 1 million green homes, Korea National Housing Corporation has become the first public institution to develop energy-efficiency grade 1 houses. In September 2008 we applied this technology to 770 houses in Euijeongbu Minrak district, and we are expanding the application to all houses for same starting in 2009. We are planning to develop a standard model of a Korean green home, and we are now able to expect to reduce housing expenses for residents (KRW 280 thousand per home) and CO2 emissions (15,209 tons per year).

#### Distribution of renewable energy houses

To build an energy-independent house, we are distributing houses utilizing renewable energy such as sunlight, solar or terrestrial heat.

#### A leading role in green home construction planning

Korea National Housing Corporation is planning to play a leading role in building green homes by presenting a Korea model of a green home, and build 750,000 out of 1,000,000 new green homes supplied by the government. Furthermore, we plan to raise public awareness of green homes by running the green home information center.

## Creating a Green Living Space

We create a space where people and nature breathe together



### Green Complex, a Town Where Nature Breathes

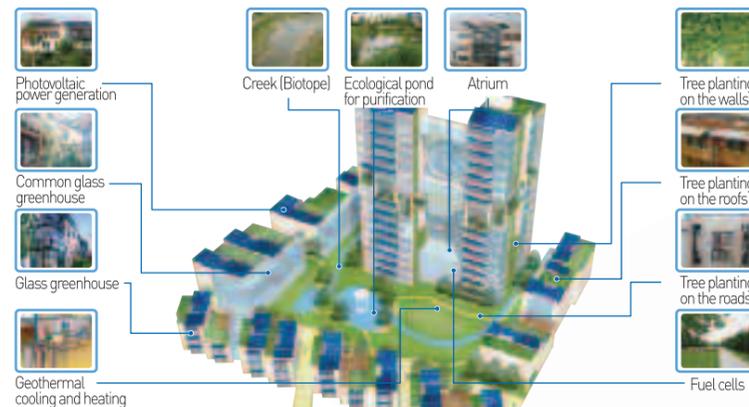
A green complex refers to an environment-friendly housing complex in which both humans and the ecosystem can live a healthy life. This business intends to undo the physical, economic, and social damages due to the reckless urban construction of the past focused only on development. Complexes with names such as 'environment-friendly housing complex,' 'ecological housing complex' or 'eco-village' are based on a concept similar to this.

### Key Outcomes and Plans

#### Energy-independent complex

In 2008 we installed 886kw photovoltaic power generators in 10 National Rental Housing complexes including Ulsan Hwabong A-1,2, Asan Sinchang and Chuncheon Geodu, and a geothermal system in the residential welfare center of Seongnam Pangyo section 3.

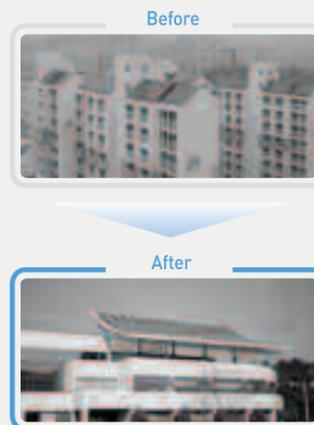
#### Future Green Complex



#### Energy saving complex

An energy-saving housing complex using sunlight is being developed in the Susan Yecheon district. We are installing an integrated solar panel from the planning and design stage to improve the landscape, concentration efficiency, and constructability. As a result, housing expenses per home is expected to decrease by KRW 57,000 annually, and we expect a 3.2 billion decrease in housing expenses for the entire Seosan Yecheon district. As external demands are rising for green complexes, Korea National Housing Corporation plans to gradually expand green complexes.

#### Energy-Saving Seosan Yecheon Complex



### Environment-friendly eco-city

As the customers' demands on the development of an environment-friendly city are rising, we have established plans for environment-friendly eco-housing complexes, and we are translating them into a reality. In the Yangsan Sasong district (1,770 houses), natural green zones were to be created on 23.81% of the lot, and a plan to put plants on the floors and walls is being reflected in the designs. Also, we are trying to find diverse ways to make the complex a more pleasant place and develop ecologically sustainable cities, such as creating an ecological forest.

#### Eco-Friendly Development Plan In the Yangsan Sasong District



#### Plan to build a model complex of high green homes

To build houses better than building energy efficiency grade 1 (33.5%) and create housing complexes with a superb ecosystem, we are planning to promote the 'First Village in the Happy City' as a model complex of green homes. To this end, we are developing a technical manual regarding complex planning, use of renewable energy, utilization of water resources, etc., in order to create a low-carbon green village.

### Green City, Where Nature Breathes

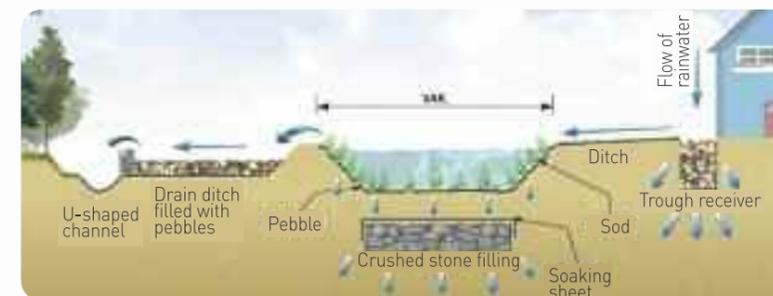
A green city refers to a city with a system for converting the linear metabolism of a city to a cyclical metabolism. In other words, it is a city of cyclical metabolism that uses recyclable resources rather than resources that cannot be used again, and recycles waste water or garbage, or turns it into energy. Korea National Housing Corporation pursues sustainable city planning and development that not only protect the environment and have economic benefits, but also bring social benefits. When the low-carbon green city is created, green homes, carbon-zero houses, green transportation, renewable energy, etc. will be activated, and the quantity of carbon, which is the cause of climate change, will decrease. Korea National Housing Corporation will continuously make efforts to make the future image of the new green city such as the carbon-neutral city and the carbon-zero city to become a reality.

### Plans for a Low-Carbon Green City

To create the Asan new town as a low-carbon green city, we have entered into an international academic exchange agreement with ESRU and we are currently conducting a joint research.

While actively promoting Asan as a model city of renewable energy and creating a green transportation network focused on bicycles, we have developed the first domestic distributed rainwater management system and are planning to use the system to relieve the 'heat island' phenomenon in the urban center.

#### Distributed Rainwater Management System of Asan New City



## R&D to Reduce Greenhouse Gas Emissions



We constantly conduct researches for the earth and future generations.

### Efforts to Reduce Building LCA Greenhouse Gas Emissions

As finding ways to reduce greenhouse gas emissions, related to global warming and the United Nations Convention of Climate Change is emerging as a main issue in construction policies as well, development of a quantitative method of measuring resource and energy consumption and greenhouse gas emissions in the life cycle of a building is required. Since 2000, Korea National Housing Corporation has been carrying out researches to develop an LCA (Life Cycle Assessment) technique suitable to domestic circumstances. Through this, we are trying to find the sources of CO<sub>2</sub> on sites, prepare and distribute reduction plans from the construction stage, and to reduce CO<sub>2</sub> emissions by raising the energy efficiency of rental housing and our assets such as our office buildings, etc. in the operating stage. We will continuously conduct researches to minimize environmental impact of buildings from the viewpoint of life cycle, and lay the foundation for inducing the reduction of environmental expenses.

### R&D and Future Plans

Korea National Housing Corporation is currently conducting various technology development and R&D activities to respond to the climate change convention and secure environmental-friendly construction technologies.

Researches for the Asan Tangjeong low-carbon green city business and the development of environment-friendly materials and energy-saving apartments have been carried out over the years. In the Asan new town, the effort to turn domestic waste into biomass energy is equated with the effort to produce electricity and reduce carbon. Biomass will be further used as an important energy source for green cities of the future.

In the future, Korea National Housing Corporation will continue to conduct researches to respond to climate change.



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# Third-Party Review



## Hyung-Kook Kim

**Biography** : Former chairperson of the Presidential Commission on Sustainable Development  
Professor emeritus, Graduate School of Environmental Studies, Seoul National University  
Chairperson of Presidential Committee on Green Growth

Korea National Housing Corporation, as the representative public corporation of Korea leading the improvement of housing welfare and urban development, is playing an important public role. Especially, it has great meaning in that it creates living space for not only this generation but also future generations to live a happy life.

Korea National Housing Corporation is the first public corporation to publish a sustainability report with global evaluation standards applied, and is further working to actively respond to recent issues such as the economic crisis, reduction of greenhouse gas emissions, and climate change. In this sustainability report, KNHC is displaying a forward-looking image by including climate change in the evaluation factors of sustainable development (economy, society, environment).

However, considering climate change on the same line as the subordinate areas, economy, society, and environment, of sustainable development has a logical flaw in that climate change is theoretically a matter of primary concern in the green growth policy, a political theory applying the theory of ecological modernization. If you still want to digest climate change within the borders of 'sustainable development,' it should be considered as a main factor under the environment area among the three areas of sustainable development (economy, society, environment). In future reports, it is recommended to organize the various business promoted by KNHC according to the green growth policy theory and review it within the category of Green Homes, or if the frame of sustainable development is kept, climate change should be treated as a subordinate area to the environment as pointed out above.

I hope that the efforts of Korea National Housing Corporation for sustainability management continues and encourage the spread throughout society including other public corporations, and furthermore become a valuable footstep in leading social change through sustainable green growth.

김형국



## Ji-in Jang

**Biography** : Professor, College of Business Administration, Chung-Ang University  
President of the Korean Public Enterprise Association  
President elect of the Korean Accounting Association

As the sustainability report of Korea National Housing Corporation, the second such report since 2006, is based on GRI G3 Guidelines, it maintains continuity with the 2006 report, and is more open to comparison with those of global enterprises. The 2008 report has a broader scope of reporting than the 2006 report, and reflects the government's framework of the low-carbon green growth policy as a public enterprise, thereby separating its performance in responding to climate change from environmental performance. It is a great step forward.

In particular, KNHC integrated its sustainability management strategy with its mid-to-long-term strategic management plan, and identified and presented sustainability management issues and practical tasks. KNHC not only reflected the opinions of stakeholders and presented the results, but also reflect readers' opinions about the 2006 report, and raised the understandability of the report. I believe these are positive changes.

The indicators of the 4 areas described in the report have seen overall improvement, and particularly, the indicators of the environment and society category have improved. Accordingly, I believe KNHC is making visible results in fulfilling its public role as a public enterprise. The positive performance in the environment and society category seems to alleviate its chronically worsening profits from the economic viewpoint and its burden from the viewpoint of financial structure. Accordingly, KNHC's sustainability report 2008 is regarded as important in that it can create values by performing public roles, deliver them to stakeholders, and thus supplement the current financial report.

However, there still are issues that need to be improved on: i.e. quantitatively measuring the purely public performance of KNHC, and quantitatively measuring environmental investments, environmental costs and environmental outcomes by introducing environmental accounting. Social performance and environmental performance are compared with that of the past by means of timeseries to a certain degree, but comparison with similar public corporations and with global enterprises must also be done to figure out where KNHC stands. If this supplementation is made in the future, I am sure that it will become a more complete sustainability report.

장재인

# Third-Party Review



## Cheol-gi Ju

**Biography** : Former UNESCO ambassador  
Former Ministry of Foreign Affairs and Trade Ambassador-at-large  
Secretary General, Global Compact Network Korea

I see that the 'Sustainability Report 2008' of Korea National Housing Corporation was written to emphasize the response to environmental and climate change. 2009 is important in that it is a year to rebuild a global climate change response system and green economic growth in Korea is going to be actively carried out, so in my opinion, it is a timely response. To reduce carbon emissions, which is the cause of global warming, the reduction of carbon emissions and climate change adaptation of buildings and houses is important, so the construction of low carbon green cities should be actively promoted, and presenting environment-friendly housing complexes, green home model complex, and energy-independent complexes was an appropriate decision as a corporation aiming for the world's first housing and city corporation.

Calculating green house gas emissions on site and describing the reductions seen in several sites caught my attention. However, efforts must be made to meet the reduction of global carbon emissions, and connect it with the mid-long-term goal of reducing carbon emissions of the government. I consider it advisable that KNHC presents a progressive reduction goal over the whole of the businesses, and prepare to boldly announce business plans.

Korea National Housing Corporation, after joining the UN Global Compact in 2006, has been developing its communication with various stakeholders, which can be seen from being selected as a model report for the COP in 2009, according to the 10 principles of the Global Compact. Especially, this report reflects results of detailed surveys and interviews with several stakeholders, and released sustainability management outcomes using the GRI G3 performance indicators. However, it would have been better to include more details on human rights, labor rights, and anti-corruption in the survey contents. Although this report was more focused on the environment and climate change that details on human rights, labor principles, and anti-corruption measures were not recorded with weight, the will to carry out these principles must be emphasized.

Detailed results of actions taken for moral management are expressed at the right moments, and the « Make a clean Jugong project » grabbed my attention. As the management is being improved by strengthening the production network subcontract system, if the Code of Ethics, etc. are distributed to the supply network and also be promoted in a win-win way, it will greatly contribute to the development of KNHC as a leading corporation of the 21st century in its field.

Lastly, I noticed that KNHC was carrying out advanced social contribution activities such as « Building hope » and « Sharing hope » to help second-class citizens and socially neglected classes. Furthermore, as KNHC has invited and been training foreign experts, this can be regarded as accomplishments in accordance with Chapter 7 of the Millennium Development Goals (MDGs) «Ensure environmental sustainability», or Chapter 8 «Develop a global partnership for development», and the promotion of these contributions to the international society will go a long way toward improving the brand image of Korea National Housing Corporation.



## Jin Park

**Biography** : Professor, KDI School of Public Policy and Management  
President of the Korea Institute for Future Strategies  
Government-invested institution management evaluation committee member

I regard the 'Sustainability Report 2008' published by Korea National Housing Corporation as a well written report that holds a lot of information on the whole. The part, in which not only the management of the performance data of the previous report but also the expansion of the participation of stakeholders and climate change issues were reflected, was enough to differentiate the report from the previous.

However, one thing that I find regrettable is the fact that these efforts for sustainability management is not well known by external stakeholders. The sustainability report can be the most basic agent for internal and external stakeholders to access the sustainability of the corporation. The publishing of the sustainability report must not stop as a means to advertise the corporation, and needs to provide an opportunity to communicate with stakeholders with a focus on detailed sustainability management outcomes. Then, the sustainability management of KNHC will shine more brightly.

Because the sustainability report reflects various outcomes in the economy, society, and environment areas, I think it is difficult to emphasize one area more than another. However, I hope the following items be reflected in future publications and help understand the sustainability management of KNHC.

First, there is a need to emphasize the public role of Korea National Housing Corporation. It must be shown persuasively that the accumulating losses every year are due to the public functions requested by the government. The sale house business, which is criticized for market cannibalization, must be abandoned in the long run, but efforts must be made to eliminate the negative view of outsiders by emphasizing that the accumulating losses are inevitable as a result of funding the housing welfare business when government support is insufficient.

Second, although it is important to let know the outcomes of sustainability management, explanations on the management systems of various areas such as the distribution of resources, decision-making, evaluation, and inspections that make those outcomes possible need to be described with more weight. Since outcomes that are not a result of the system can be greatly influenced by external factors every year, the corporation must work to advance the whole management system.

Third, various efforts must be made to resolve the negative views of stakeholders towards Jugong apartments. The corporation must work to escape the original image and build an image of 'high quality, low price' apartments.

Lastly, since the corporation will be merged with the Korea Land Corporation this year, this sustainability report will be the last to be published under the name of Korea National Housing Corporation. I hope that the corporation will become more efficient through the merger, and proudly present the outcomes in next year's report.

# GRI Indicators

GRI		Page
<b>Strategy and Analysis</b>		
1.1	Statement from the most senior decision-maker of the organization	2-3
1.2	Description of key impacts, risks, and opportunities.	8-11, 66
<b>Organizational Profile</b>		
2.1	Name of the organization	6
2.2	Primary brands, products, and/or services	8, 19, 30
2.3	Operational structure of the organization, including main divisions, operating companies, subsidiaries, and joint ventures	6
2.4	Location of organization's headquarters	6
2.5	Number of countries where the organization operates, and names of countries with either major operations or that are specifically relevant to the sustainability issues covered in the report	29
2.6	Nature of ownership and legal form	6
2.7	Markets served (including geographic breakdown, sectors served, and types of customers/beneficiaries)	8, 19, 20, 53
2.8	Scale of the reporting organization	6, 31, 61
2.9	Significant changes during the reporting period regarding size, structure, or ownership	Inside front cover
2.10	Awards received in the reporting period	Front cover flap
<b>Report Parameters</b>		
3.1	Reporting period (e.g., fiscal/calendar year) for information provided	Front cover flap
3.2	Date of most recent previous report (if any)	Front cover flap
3.3	Reporting cycle (annual, biennial, etc.)	Front cover flap
3.4	Contact point for questions regarding the report or its contents	Inside back cover
3.5	Process for defining report content	12-13, 15
3.6	Boundary of the report (e.g., countries, divisions, subsidiaries, leased facilities, joint ventures, suppliers). See GRI Boundary Protocol for further guidance	Front cover flap
3.7	State any specific limitations on the scope or boundary of the report (see completeness principle for explanation of scope)	Front cover flap, 41
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	Front cover flap
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. Explain any decisions not to apply, or to substantially diverge from the GRI Indicator Protocols	Front cover flap
3.10	Explanation of the effect of any re-statements of information provided in earlier reports, and the reasons for such re-statement (e.g., mergers/acquisitions, change of base years/periods, nature of business, measurement methods)	Front cover flap
3.11	Significant changes from previous reporting periods in the scope, boundary, or measurement methods applied in the report	Front cover flap
3.12	Table identifying the location of the Standard Disclosures in the report	76-79
3.13	Policy and current practice with regard to seeking external assurance for the report	Front cover flap, 72-75
<b>Governance, Commitments, and Engagement</b>		
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	7
4.2	Indicate whether the Chair of the highest governance body is also an executive officer	7
4.3	For organizations that have a unitary board structure, state the number of members of the highest governance body that are independent and/or non-executive members	7
4.4	Mechanisms for shareholders and employees to provide recommendations or direction to the highest governance body	50, 62
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)	7
4.6	Processes in place for the highest governance body to ensure conflicts of interest are avoided	7
4.7	Process for determining the qualifications and expertise of the members of the highest governance body for guiding the organization's strategy on economic, environmental, and social topics	7
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	10, 11, 51
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 principle	7
4.10	Processes for evaluating the highest governance body's own performance, particularly with respect to economic, environmental, and social performance	7
4.11	Explanation of whether and how the precautionary approach or principle is addressed by the organization	7
4.12	Externally developed economic, environmental, and social charters, principles, or other initiatives to which the organization subscribes or endorses	7
4.13	Memberships in associations (such as industry associations) and/or national/international advocacy organizations in which the organization: * Has positions in governance bodies; * Participates in projects or committees; * Provides substantive funding beyond routine membership dues; or * Views membership as strategic	Inside front cover
4.14	List of stakeholder groups engaged by the organization	12-13
4.15	Basis for identification and selection of stakeholders with whom to engage	12
4.16	Approaches to stakeholder engagement, including frequency of engagement by type and by stakeholder group	13
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, including through its reporting	14-15

GRI		Relevancy to KNHC	Global Compact	Page
<b>Economy</b>				
<b>Disclosure on Management Approach</b>				
EC1	Direct economic value generated and distributed, including revenues, operating costs, employee compensation, donations and other community investments, retained earnings, and payments to capital providers and governments	Economic performance		31
EC2	Financial implications and other risks and opportunities for the organization's activities due to climate change	KNHC's Role for climate change		29
EC3	Coverage of the organization's defined benefit plan obligations	Retirement plan		63
EC4	Significant financial assistance received from government	Government's financial assistance		31
EC5	Range of ratios of standard entry level wage compared to local minimum wage at significant locations of operation	Ratio of standard entry level wage compared to statutory minimum wage		61
EC6	Policy, practices, and proportion of spending on locally-based suppliers at significant locations of operation	Proportion of local subcontractors		59
EC7	Procedures for local hiring and proportion of senior management hired from the local community at significant locations of operation	[There is no preference given to applicants from specific locations as KNHC hires without any age/educational background/major restrictions.]		Not Applicable
EC8	Development and impact of infrastructure investments and services provided primarily for public benefit through commercial, in-kind, or pro bono engagement	Social infrastructure investment		31
EC9	Understanding and describing significant indirect economic impacts, including the extent of impacts	Indirect economic effects of the National Rental Housing		21
<b>Environmental</b>				
<b>Disclosure on Management Approach</b>				
EN1	Materials used by weight or volume	Quantity of steel reinforcement, ready mixed concrete and aggregates used		41
EN2	Percentage of materials used that are recycled input materials	Quantity of recycled aggregates used	Principle 7	41
EN3	Direct energy consumption by primary energy source	Quantity of fuel for vehicles of the main office and regional headquarters		44
EN4	Indirect energy consumption by primary source	Quantity of fossil fuel, electricity and district heating used for the main office and regional headquarters		44
EN5	Energy saved due to conservation and efficiency improvements	Activities of sites to reduce energy consumption, management of energy use at the main office and regional headquarter, and continued efforts to save energy	Principle 8	42, 44
EN6	Initiatives to provide energy-efficient or renewable energy based products and services, and reductions in energy requirements as a result of these initiatives	Energy-efficient housing and related services, plan vs. actual (green homes, green complexes, and green cities), supply of renewable energy housing	Principle 9	27, 28, 29, 38, 67-69
EN7	Initiatives to reduce indirect energy consumption and reductions achieved	Green purchasing	Principle 8	44
EN8	Total water withdrawal by source	Water use at sites, water use at the main office and regional headquarters		41, 44
EN9	Water sources significantly affected by withdrawal of water	Water use at sites and waste water management	Principle 8	41
EN10	Percentage and total volume of water recycled and reused	Quantity of recycled water and rainwater at sites and quantity of reclaimed wastewater used at the main office and regional headquarters	Principle 8	41, 44
EN11	Location and size of land owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected area	Efforts to protect the ecosystem	Principle 8	42
EN12	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas	Efforts to protect the ecosystem	Principle 8	42
EN13	Habitats protected or restored	Efforts to protect the ecosystem	Principle 8	42
EN14	Strategies, current actions, and future plans for managing impacts on biodiversity	Mandatory Eco Plan	Principle 8	37
EN15	Number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk	Efforts to protect the ecosystem	Principle 8	42
EN16	Total direct and indirect greenhouse gas emissions by weight	Greenhouse gas emission at the main office and regional headquarter		44
EN17	Other relevant indirect greenhouse gas emissions by weight	Greenhouse gas emission at sites	Principle 9	42
EN18	Initiatives to reduce greenhouse gas emissions and reductions achieved	CDM project, and use of renewable energy at the regional headquarter	Principle 9	29, 44
EN19	Emissions of ozone-depleting substances by weight	No emission of ozone-depleting substances		Not Applicable
EN20	NOx, SOx, and other significant air emissions by type and weight	No emission of ozone-depleting substances		Not Applicable
EN21	Total water discharge by quality and destination	Water use and waste water management		44
EN22	Total weight of waste by type and disposal method	Quantity of construction waste		43
EN23	Total number and volume of significant spills	No serious spill was reported, but preventive soil purification is underway		43
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	[All waste is properly treated by qualified domestic companies.]		Not Applicable
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	Water use and waste water management at sites, and waste water treatment at the main office and regional headquarters	Principle 8	41
EN26	Initiatives to mitigate environmental impacts of products and services, and extent of impact mitigation	No. of Green Building Certifications, development eco-friendly technologies and design application	Principle 8	38
EN27	Percentage of products sold and their packaging materials that are reclaimed by category	[No products sold in packaging]	Principle 7	36
EN28	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations	Compliance with environmental laws and regulations	Principle 8	43
EN29	Significant environmental impacts of transporting products and other goods and materials used for the organization's operations, and transporting members of the workforce	Quantity of fuel for vehicles and construction machines at sites, greenhouse gas emissions, quantity of fuel used for vehicles of the main office and regional headquarters, and greenhouse gas emissions	Principle 8	42, 44
EN30	Total environmental protection expenditures and investments by type	Cost of handling construction waste	Principle 8	43

# GRI Indicators

	GRI	Relevancy to KNHC	Global Compact	Page
<b>Labor Practices and Decent Work</b>				
LA1	Total workforce by employment type, employment contract, and region	Employee status		61
LA2	Total number and rate of employee turnover by age group, gender, and region	No. of retirees and turnover rate		63
LA3	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by major operations	Employee welfare		63
LA4	Percentage of employees covered by collective bargaining agreements	Labor union membership by position	Principle 3	62
LA5	Minimum notice period(s) regarding significant operational changes, including whether it is specified in collective agreements	According to national law, KNHC abides by national law stipulating the 90-day advance notice requirement to labor unions in case of significant operational change.		62
LA6	Percentage of total workforce represented in formal joint management-worker health and safety committees that help monitor and advise on occupational health and safety programs	[There is no management-worker health and safety committees.]		Not Available
LA7	Rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities by region	Hazard Rate, number of people on sick leave and lost days		60, 63
LA8	Education, training, counseling, prevention, and risk-control programs in place to assist workforce members, their families, or community members regarding serious diseases	We do not report on it yet, since we have not been able to gather the data yet because we don't have developed yet such assistance programs, but by near term, we will be able to report on it.		Not Available
LA9	Health and safety topics covered in formal agreements with trade unions	Guaranteeing the health and safety of employees	Principle 3	63
LA10	Average hours of training per year per employee by employee category	No. of training sessions by grade		62
LA11	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings	Support of life-long learning		63
LA12	Percentage of employees receiving regular performance and career development reviews	Ratio of employees subject to performance evaluation	Principle 6	63
LA13	Composition of governance bodies and breakdown of employees per category according to gender, age group, minority group membership, and other indicators of diversity	Ratio of female employees, senior female and disabled employees	Principle 6	61, 62
LA14	Ratio of basic salary of men to women by employee category	Fair treatments between both sexes in terms of basic pay	Principle 6	61
<b>Human Rights</b>				
HR1	Percentage and total number of significant investment agreements that include human rights clauses or that have undergone human rights screening	[No investment agreements for the past few years]	Principle 2	Not Available
HR2	Percentage of significant suppliers and contractors that have undergone screening on human rights and actions taken	We do not report on it yet, since we have not been able to gather the data yet because we don't have a screening system relating to human rights in place, but we will be able to report on it by mid term.	Principle 2	Not Available
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	No. of human rights training sessions, including sexual harassment prevention training sessions	Principle 2	61
HR4	Total number of incidents of discrimination and actions taken	Total number of incidents of discrimination and actions taken By the ombudsman	Principle 1	61
HR5	Operations identified in which the right to exercise freedom of association and collective bargaining may be at significant risk, and actions taken to support these right	Open Shop system operations	Principle 1	62
HR6	Operations identified as having significant risk for incidents of child labor, and measures taken to contribute to the elimination of child labor	Regulations prohibiting the employment of juveniles	Principle 5	61
HR7	Operations identified as having significant risk for incidents of forced or compulsory labor, and measures taken to contribute to the elimination of forced or compulsory labor	Regulations prohibiting forced labor	Principle 4	61
HR8	Percentage of security personnel trained in the organization's policies or procedures concerning aspects of human rights that are relevant to operations	Training for security personnel to protect customer information	Principle 1	55
HR9	Total number of incidents of violations involving rights of indigenous people and actions taken	Job placement for residents and protection of the rights of original residents	Principle 2	59
<b>Society Performance Indicator</b>				
S01	Nature, scope, and effectiveness of any programs and practices that assess and manage the impacts of operations on communities, including entering, operating, and exiting	Consideration of local communities through impact assessments		59
S02	Percentage and total number of business units analyzed for risks related to corruption	Punishment of corrupt employees	Principle 10	50
S03	Percentage of employees trained in organization's anti-corruption policies and procedures	Ethical and integrity education	Principle 10	50
S04	Actions taken in response to incidents of corruption	Actions taken in response to incidents of corruption	Principle 10	50
S05	Public policy positions and participation in public policy development and lobbyin	Key housing and urban policy positions and improvement support		30, 58
S06	Total value of financial and in-kind contributions to political parties, politicians, and related institutions by country	[KNHS's political donations and in-kind contributions to political parties in compliance with domestic laws]		31
S07	Total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes	Compliance with fair competition	Principle 10	60
S08	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations	[No violation]		Not Available
<b>Product Responsibility</b>				
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	Amendment of indoor air quality management regulations, identification of eco-friendly construction materials, efforts to protect customer health and safety		36, 55, 56
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	Rental housing safety management and apartment indoor air quality management		56
PR3	Type of product and service information required by procedures, and percentage of significant products and services subject to such information requirements	Efforts to provide information when apartments are supplied		56, 57
PR4	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes	Efforts to comply with laws and regulations related to product information		57
PR5	Practices related to customer satisfaction, including results of surveys measuring customer satisfaction	Activities for improving customer satisfaction and result of customer satisfaction survey		55-57
PR6	Programs for adherence to laws, standards, and voluntary codes related to marketing communications, including advertising, promotion, and sponsorship	[As public corporation, KNHC is required to comply with any national laws and standards. However, there is no specific program to secure adherence to laws, standards, and voluntary codes related to marketing communications.]		57
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	Efforts to comply with laws and regulations related to advertising and sales promotion		57
PR8	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data	Online complaints and their types		55
PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services	Provision of housing information and compliance with laws and regulations		57

	GRI	Relevancy to KNHC	Page
<b>Sector Supplement/Public Agency</b>			
PA1	Describe the relationship to other governments or public authorities and the position of the agency within its immediate governmental structures	Executing housing and urban policies as an affiliated organization of the Ministry of Land, Transport and Maritime Affairs	6, 12
PA2	State the definition of sustainable development used by the public agency, and identify any statements or principles adopted to guide sustainable development policies	KNHC's role for sustainability development, strategies for sustainability management implementation, employees' ethics code	8-10, 51
PA3	Identify the aspects for which the organisation has established sustainable development policies	Strategies for sustainability management implementation	8-10
PA4	Identify the specific goals of the organisation for the each aspects listed in PA3	DMA in the economy, environment and society, and KNHC's role for climate change	18-19, 34-35, 48-49, 66
PA5	Describe the process by which the aspects and goals in both PA3 and PA4 were set	Establishing vision and strategy through communication with stakeholders	12
PA6	For each goal, provide the following information:	Sustainability indicator's, DMA in the economy, environment and society, KNHC's role for climate change	11,19,35,49,66
PA7	Describe the role of and engagement with stakeholders with respect to the items disclosed in PA6	Stakeholder management	12-13
PA8	Gross expenditures broken down by type of payment	Profit and loss statement, Present status of the financial support of the government	31
PA9	Gross expenditures broken down by financial classification	Present status of the financial support of the government	31
PA10	Capital expenditures by financial classification	Present status of the financial support of the government	31
PA11	Describe procurement policy of the public agency as relates to sustainable development	KNHC's role for sustainability development, KNHC's role for climate change	8-9, 66
PA12	Describe economic, environmental, and social criteria that apply to expenditures and financial commitments	Present status of the financial support of the government, social infrastructure investments	31
PA13	Describe linkages between the public agency's procurement practices and its public policy priorities	KNHC's role for sustainability development, KNHC's role for climate change	8-9, 66
PA14	Percentage of the total value of goods purchased that were registered with voluntary environmental or social labels and/or certification programmes, broken down by type	No. of green building certifications, no. of houses built with building energy efficiency grade 1	38

## G3 Guideline Application levels

Sustainability Report 2008 of Korea National Housing Corporation is a report that complies with the standard disclosures of the GRI G3 Guidelines, and this report fulfills the requirement of "A" level application presented as below. The application level is examined by the GRI Secretariat.



### Report Application Level

	C	C+	B	B+	A	A+
<b>Standard Disclosures</b>	<b>G3 Profile Disclosures</b> Output	Report 1: 1.1, 2.1-2.10, 3.1-3.8, 3.10-3.12, 4.1-4.4, 4.14-4.15	<b>Report Externally Assured</b>	Report on all criteria listed for Level C plus: 1.2, 3.9, 3.13, 4.5-4.13, 4.16-4.17	<b>Report Externally Assured</b>	Same as requirement for Level B
	<b>G3 Management Approach Disclosures</b> Output	Not Required		Management Approach Disclosures for each Indicator Category		Management Approach Disclosures for each Indicator Category
	<b>G3 Performance Indicators &amp; Sector Supplement Performance Indicators</b> Output	Report on a minimum of 10 performance Indicators, including at least one from each of : Economic, Social and Environmental.		Report on a minimum of 20 performance Indicators, including at least one from each of Economic, Environmental, Human rights, Labor, Society, Product Responsibility		Report on each core G3 and Sector Supplement* Indicator with due regard to the Materiality Principle by either: a) reporting on the Indicator or b) explaining the reason for its omission

