

The Ten Year Framework of Programmes on Sustainable Consumption and Production Patterns

1. The inclusion of SCP in national policies: Green Growth

1.1 Background and Concept

In order to resolve the global energy and resource crisis related to global warming, which has had a significant influence on the Republic of Korea, the government announced its adoption of “low-carbon green growth” as a national vision for the next 60 years, through a speech given at a memorial ceremony for the 60th Anniversary of Korea’s National Foundation in August 2008, supplementing the abstract nature and wide scope of sustainable development with respect to policy realization. This involves adopting an eco-friendly pattern of economic development, and is a new national development paradigm that attempts to break the connection between economic development and environmental disruption.

The concept of green growth will be manifested in three aspects. The first is a virtuous cycle of the environment and the economy. Through a transformation of the growth pattern and economic structure that maximizes the synergies of the environment and economy, the greening of core key industries, the promotion of low-carbon green industries, and the greening of the value chain shall be promoted.

The second aspect is improving the quality of life, and promoting a green revolution in life patterns. It involves the implementation of green living everywhere in our lives, including land, cities, buildings, and residential areas, preparing a base for green consumption, vitalizing green transportation such as buses, subways, and bicycles, and improving transportation efficiency based on an intelligent transportation system.

The third aspect is establishing a national position that conforms to international expectations. By actively responding to international discussion of climate changes, green growth can be utilized as a new driver of national development, and by taking an international leadership role as a green bridging nation, improved standing as a green advanced nation can be expected.

1.2 National Strategies for Green Growth

To realize this vision of green growth, the Presidential Committee on Green Growth was established in February 2009. In addition, the government and the private sector has jointly devised reports for “National Strategies for Green Growth” and “5-year Plan” and following the collection of opinions from interested parties, the “National Strategies for Green Growth and 5-year Plan” was officially announced on 14 July 14, 2009.

< Vision for Green Growth >



1.3 5-Year Plan for Green Growth

From these national strategies for green growth, a 5-year plan was derived reflecting detailed tasks and estimates by year and by industry. This is a mid-term plan to prepare a fundamental basis for achieving the national vision of green growth, realizing the political commitment of the current government.

< Core Projects Roadmap for the 5-Year Plan for Green Growth >

10 Major Aims	Core Projects	Major Expectations
Efficient reduction of greenhouse gas	<ul style="list-style-type: none"> - Reducing greenhouse gas - Disclosure of carbon information 	Carbon information disclosure rate (%) ('09) 10 → ('13) 40
Oil alternatives/energy independence	<ul style="list-style-type: none"> - Management of energy objectives - Export of nuclear power plants 	Unit of energy resources (toe/\$1k) ('09) 0.317 → ('13) 0.290
Strengthening adaptability to climate changes	<ul style="list-style-type: none"> - Recovery of 4 major rivers - Coast vulnerability map 	Secured water resources (100M m ³) ('09) 186 → ('13) 200
Development of green technology industry	<ul style="list-style-type: none"> - Green Tech Initiative 	International share of green technology products (%) ('09) 2 → ('13) 8.0
Greening of all industries	<ul style="list-style-type: none"> - Carbon Partnership - Zero-Emission industrial district 	Industrial district greenhouse gas reduction (1ktons) ('09) - → ('13) 2,000
Highly developed industrial structure	<ul style="list-style-type: none"> - U-running vitalization - Development of future core materials 	Export of broadcast-communication integral industry (\$100M) ('09) 520 → ('13) 1,237
Formation of green economy base	<ul style="list-style-type: none"> - Discharge right trading system - Green stock index 	Size of domestic carbon market (KRW 100M) ('09) - → ('13) 0.5

Formation of green national transportation	<ul style="list-style-type: none"> - Vitalization of green buildings - Vitalization of bicycle usage 	Share of Public transportation(%) (’09) 50 → (’13) 55
Green revolution in lifestyles	<ul style="list-style-type: none"> - Carbon labelling - Carbon point system 	Green purchases (unit: KRW 100M) (’09) 2.5 → (’13) 4.0
Model country for green growth Green Growth Model Nation	<ul style="list-style-type: none"> - Greening of Public Support to Development - Green Growth Management of international Index 	Green ODA weight (%) (’09) 14 (e) → (’13) 20

2. Green public procurement policies, laws and regulations

2.1 General Overview

a. Public Procurement System

Public procurement in the Republic of Korea consists of distributive procurement, which supplies the commodities demanded by various agencies (government agencies, local governments, and public agencies), and central procurement of commodities beyond a certain level, such as materials for facility constructions and special local government constructions ordered through the Public Procurement Service (PPS). The total amount of public procurement is 11.1 billion won (2008), representing 11% of the GDP.

b. Role and Function of Public Procurement Service

The Public Procurement Service (PPS) is responsible for a range of procurement tasks, including the purchase/supply of various commodities and construction contracts required by public agencies, the storage of major raw materials, the management of government commodities, the management of national property, and the operation of the Korean ON-line E-Procurement System¹. Procurement administered by the PPS represents 30% of all public procurement.

¹ *Korea On-line E-Procurement System is a national integral electronic procurement system for contracts for construction, service, and manufacture / supply of goods, which has been established in order to electronically process public procurement tasks between public agencies and procurement businesses, from business registration to bidding, contract, and payment.

By utilizing the strength of its buying power, the PPS is promoting the establishment of a green procurement system as a major priority in order to provide an initial impetus to the green market, and its major points are the preferred purchase of green products, the construction of an infrastructure for market expansion, and the supply of eco-friendly public facilities.

2.2 Implementation Methods for Green Procurement Policy

a. Cross-governmental Scheme

“Encouragement of the Purchase of Environment-friendly Products Act” stipulates the mandatory purchase of environment-friendly products for public institutions. Environment-friendly products are defined as the products with E-mark (environment mark) certification, GR-mark certification (good recycling mark), or other environment-related certifications.

In addition, “Energy Use Rationalization Act” provides for energy efficiency management schemes including mandatory energy efficiency marking, high energy-efficiency certification system, stand-by energy reduction program, building energy-efficiency certification system, etc. It also stipulates the promotion of high-energy efficiency products, energy conservation products and high energy-efficiency equipment while prohibiting the manufacture and sales of products that do not satisfy the minimum energy efficiency requirement.

b. Implementation Schemes at the PPS level

Green tech products such as eco-friendly products and energy-saving products are given preferential treatment with respect to governmental purchase, such as the exemption from eligibility evaluation when Multiple Award Schedule (MAS)² contracts are made, selection as procurement excellence product, and the expanded application of bonus points in eligibility assessment.

To construct and operate an infrastructure to support the market, the PPS also operates a corner in the Korean ON-line E-Procurement System that deals only with certified products such as eco-friendly products and highly energy-efficient equipment, and is expanding the annual (unit cost) contracts of green tech products, such as green cars, ultra power-saving LED lighting devices, CNG buses, and bicycles.

² *MAS (Multiple Award Schedule): A system in which contracts are made with multiple suppliers that offer products with identical or similar quality / performance / efficiency.

The PPS has also adopted policies for the supply and expansion of highly energy-efficient public facilities, which include strengthened energy evaluation standards for the design of public facilities and the pre-evaluation of bidder qualifications, and the promotion of the use of high-efficiency equipment during the construction process.

c. Future Plans

Working in cooperation with the relevant agencies, PPS plans to establish a roadmap that details its short-term, mid-term, and long-term green procurement goals and policies, and in the future, considering procurement size and ripple effect, plans to select priority items (areas) for green procurement (Quick Win tasks), establish corresponding procurement guidelines (environmental standards), expand green car procurement in the public sector, and gradually drive non-eco-friendly products (high carbon emission) out of the procurement market.

Furthermore, in the facilities area, the establishment and provision of order guidelines for eco-friendly facility construction and the introduction of eco-friendly structure certification for public facilities are being considered. In the area of goods management, there are plans to promote the expansion of government goods recycling, waste reduction, and green product usage requirements for major goods as major tasks.

3. Instruments for sustainable consumption

3.1 Promotion of Green Start Campaign

a. Outline

In response to the national vision of “low-carbon green growth,” which was announced at the 8.15 speech in 2008 as a key point in national advancement, and in recognition of the need to reduce greenhouse gas dramatically in our everyday lives along with the development of green industry/technology for the early realization of green growth, the Green Start Campaign has been promoted as a national movement for greenhouse gas reduction, and is forming a coalition that includes the government, the private sector, and non-governmental organizations to reduce the excessive use of fossil fuel and to systematically respond to climate change.

The major goals of the Green Start Campaign include the promotion of public participation for the reduction of greenhouse gas (43%) in non-industrial sectors (i.e. residential and commercial), the development of an incentive system for the

use of green products, the promotion of a low-carbon lifestyle for the realization of a 21st-century green era, and in the short term, expanding the construction of local networks in 2009 (143, excluding Gu-level) and greenhouse gas reduction agreements for 1 million people.

Major tasks for the Green Start Campaign include expanding local networks and securing funds, raising general awareness through public participation events, promptly promoting national events through close cooperation with local government, strengthening the incentive system to induce the practical participation of the public, training green leaders with the goal of reaching 5,000 green leaders in 2009, and the vitalization of the cyber Green Start Campaign.

b. Major Outcomes

Major results include the actual development of the Green Start Campaign through a public participation movement and a strengthened incentive system to create a national atmosphere, the recruiting and training of green leaders (about 3,500), and the establishment of a base for the cyber Green Start Campaign.

Detailed results include the speedy promotion of the construction of a network base, as in the nationwide establishment of local networks following the construction of a national Green Start network [’08.10, 32 agencies/organizations (currently 36)] so that 176 local governments (16 metropolitan, 160 local) have completed local network construction during the last seven months (as of June 2009), and strengthening the promotion of the private-sector greenhouse gas reduction project by securing national Green Start Network bureau officers and funds (1.5 billion won), and participation in the subscription project for greenhouse gas reduction (23 projects, 500 million won) and its related publicity activity.

In April 2009, a connection was made between local government events and the Green Start Campaign through the large-scale joint promotion with local governments of public participation events such as “Climate Change Week” (4.17~4.26), which attracted 816 organizations and 776 thousand people nationwide to raise awareness of the need for practical participation to respond to climate change; in June 2009, during “Greenhouse Gas Diagnosis Week” (4.17~4.26), a diagnosis manual was distributed nationwide to apartment-dwellers and families with children in elementary/middle school; 700 green leaders visited and diagnosed 36,000 households; 25,000 students received diagnosis education with a carbon footprint calculator; and online diagnosis and lights-off event (6.20) for the general public were promoted at the same time. In addition, the Clean Korea Green Start Event (March), cool style (proclamation, 6.19) and echo campus movement (public subscription, 7.4) were also promoted.

< Climate Change Week Event Photos >



Climate change week
opening ceremony (Seoul)

Greenhouse gas reduction
participation covenant

Opening ceremony with
green readers



Ban Ki-Moon Marathon
(Eumseong)

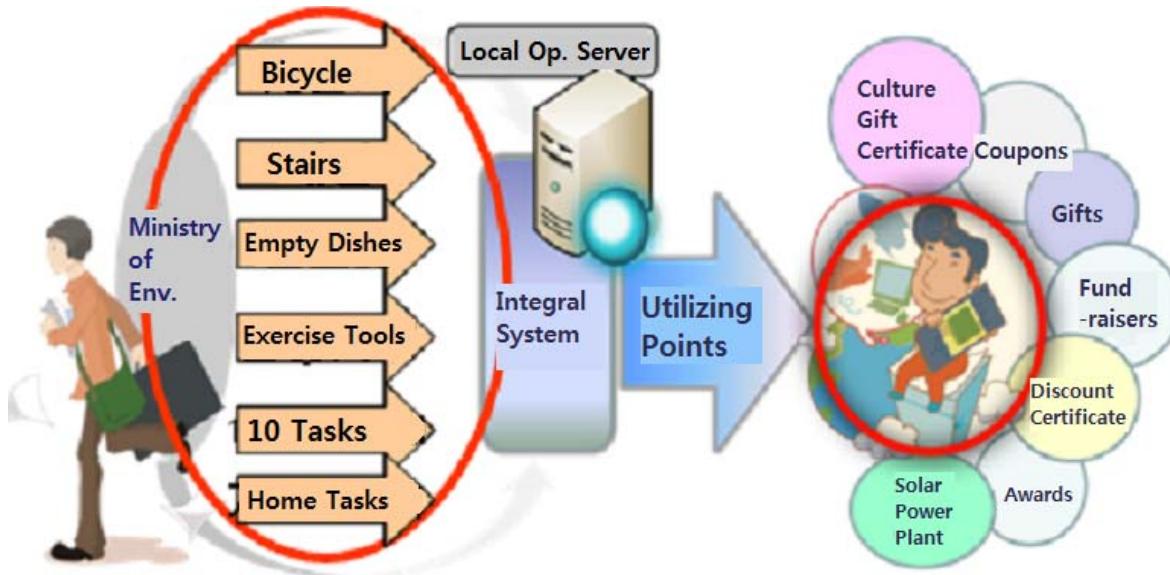
Earth model sauna
experience (Seoul)

Green Start launch
ceremony (Pyeongtaek)

In order to strengthen and expand the incentive system, which encourages the self-motivated participation of individuals and organizations in greenhouse gas reduction, a carbon point system, green point system and empty dish hope bank was established.

The carbon point system was executed through the participation of local governments all over the country beginning in July, and was followed by pilot projects for 24 participating local governments ('08.11~'09.6). At the same time, to expand the workplace greenhouse gas reduction movement, the green point system ('09.5), which provides incentives to employees that participate in the use of bicycle/public transportation, the elimination of food waste, and the empty dish hope bank ('09.4) was executed, and Green Start savings (Gwangju network) and the green credit card project (metropolitan offices) were implemented through cooperation with IBK (Industrial Bank of Korea).

< Green Points and Empty Dish Hope Bank System >

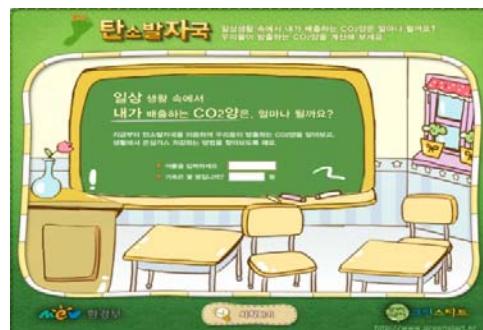


At the opening ceremony for the 1st climate change week (4.17), the future green leaders who were to be educated under the training plan were introduced for the first time. Approximately 3,500 individuals were recruited to be systematically trained as green leaders, the national pioneers and leaders of greenhouse gas reduction in everyday life. 700 green leaders participated in the apartment (36,000 households) diagnosis project during the 1st greenhouse gas diagnosis week (6.22~6.27)

In addition, a base was established for the cyber Green Start Campaign, and a green start network homepage was subsequently constructed ('09.2), an online participation covenant was promoted ('09.3~) with the cooperation of the major internet portal companies, and a carbon footprint calculator that notifies users of the carbon dioxide emissions they produce in their everyday lives was constructed and utilized to raise general awareness of the need to respond to climate change.



Green Start Homepage



Carbon Footprint Calculator

Broadcast (radio) and newspaper advertisements were put in place, and through efficient publicity activities during the last five months, such as the posting of publicity materials at major locations, the KBS Open Concert for the 1st climate

change week (4.26), the promotion of a “covenant for the Earth” jointly with JoonAng Ilbo (4.22~), and making 45,000 copies of the “Green Start! CO₂ Reduction All Together” sticker and posting it at bus terminals across the country (4.1), thus receiving more than 300,000 signatures.

c. Case Study: Campaign for Public Participation

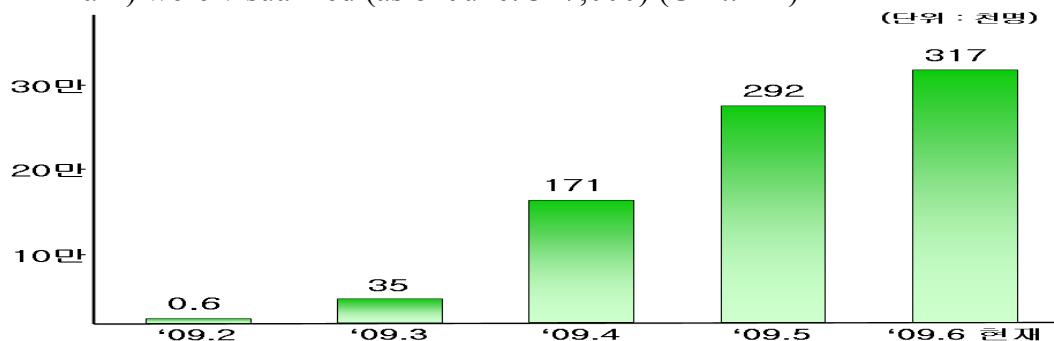
■ Background

- “Campaign for Public Participation” reported to the State Council(’08.7) and launched Nation-wide Green Start Network
- prepared “Promotion and Vitalization Plan for Public Campaign”(’09.2)

■ Major Points and Results

- Raising awareness of local governments and residents regarding the Green Start Campaign, through the “1st climate change week”(4.17~4.26)
 - Nation-wide, 75 events (776,000 participants) were held to publicize the necessity and importance of responding to climate change

⇒ Following the event, the results (as the signatories count passing the 150,000 mark) were visualized (as of June: 317,000) (Unit: 1K)



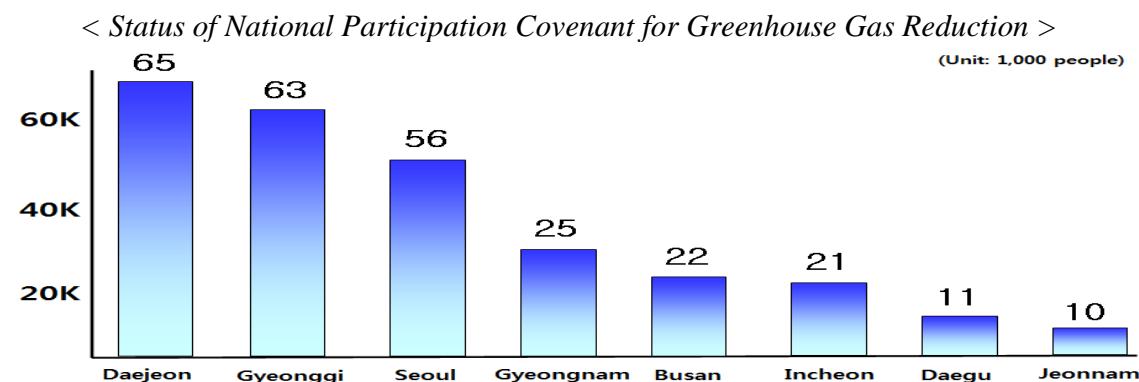
- The “1st Greenhouse Gas Diagnosis Week” (6.22~6.27) event was held side by side with the Lights-off event (6.20) and elementary/middle school education, so as to create greater synergies
 - with 700 “Green Leaders”, residential apartments and households with elementary/middle school students (total of 25,000 students) were examined using the Green Start homepage (carbon footprint calculator)
 - ※ Lights-off event is held with 3,500 public agencies, and 156 landmark buildings

- ⇒ Through the promotion of events such as “Greenhouse Gas Diagnosis Week” with local governments, network was established with 174 local governments
- Expected Results
 - The Green Start Campaign shall offer opportunities and basis for the rise of voluntary campaigns in local communities, beyond metropolitan areas
 - Greenhouse gas reduction in everyday lives (non-industrial sector)

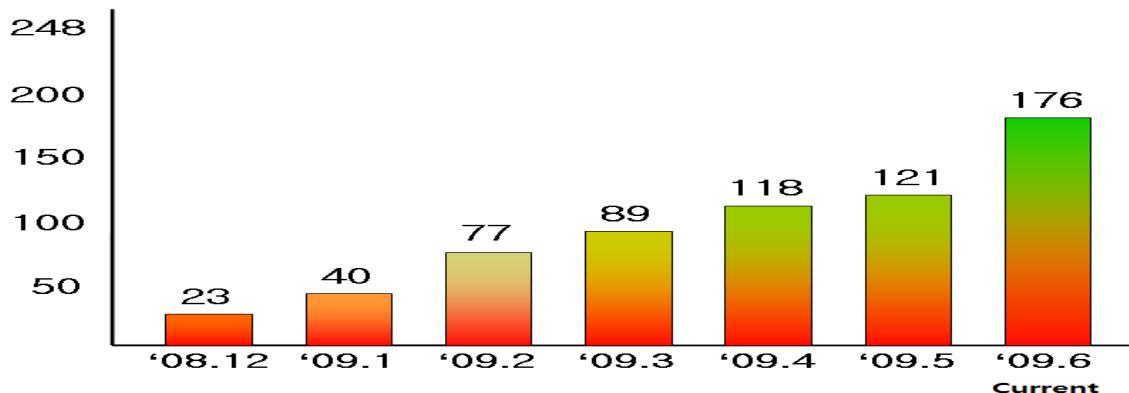
d. Policy Efficacy

As the result of the Green Start Campaign such as the construction of local networks between local governments and businesses are diffused, the attention of local communities and the media has been focused on the Green Start Campaign through events such as the 1st climate change week and greenhouse gas diagnosis, news articles about task development of local governments utilizing the Green Start Campaign, and posted evaluations from civil organizations.

Tangible results include passing 300,000 signatories for greenhouse gas reduction, completing local network establishment at 176 out of the 248 local governments, the public relations effects (educational effect and media coverage) through the promotion of the Green Start Campaign using the carbon footprint calculator, and media exposure in the major newspapers on the greenhouse gas diagnosis of households with elementary/middle school students, along with relevant education such as climate change education and the carbon point system.



< Status of the Construction of Local Government Networks >



e. Challenges Ahead

To efficiently promote a green lifestyle and the need for greenhouse gas reduction by creating synergies through connecting the Green Life Council activities of the Green Growth Committee and the WE green activities of the Ministry of Gender Equality, a joint campaign will be promoted and a mutual regulation system will be constructed. To achieve the nationwide self-initiation of the Green Start Campaign by vitalizing the local networks, a fundamental base will be constructed through a participant public subscription project and the like, to enable close cooperation between local governments and local networks.

f. Future Plans

To encourage the participation of the general public, a joint green lifestyle campaign will be promoted ('09.7~) through PR activities (both on- and off-line) in 10 areas (homes, workplaces, stores, construction sites, rural communities, roadside, restaurants, schools, campuses, and army bases) through the distribution of stickers, and summer resort publicity activities will be simultaneously promoted.

Furthermore, the promotion results of each local community will be organized and future directions will be devised, while the 2nd Green Start National Contest will be held to strengthen green creative activities, including a children's story contest and a composition contest ('09.11).

By posting a list of covenant subscribers by region/organization on the homepage, the construction of networks will be encouraged by inducing competition during the regional policy session (Aug ~ Sep) so as to reach 1 million covenant signatures and complete the construction of a local network of at least 200 local governments ('09.12).

3.2 Curriculum development/formal education programs

a. Current Status

The Republic of Korea has high awareness of the need for green growth, but the connection with actual practice is poor. Practical participation programs and an infrastructure that may encourage self-initiated participation are lacking, and green growth is generally considered to be separate from everyday life.

Accordingly, as a part of green lifestyle promotion, the government is operating diverse education and participatory programs to establish a green lifestyle culture, and is trying to expand these to local communities.

Specific Targets

1. Eco-friendly education environment
2. Operation of education program to raise awareness of green growth
3. Spreading a green culture through diverse experience programs

To enable a green lifestyle to be a natural aspect of life from childhood, the base of education must be strengthened so as to cultivate a forward-looking value system, and through the vitalization of intra/extracurricular experience programs and the expansion of participation of households and local communities, the formation of a national consensus can be expected.

b. Eco-Friendly Education Environment

The “Green School” project, which transforms existing schools into eco-friendly schools, is being promoted in 52 elementary/middle/high schools.

Through eco-friendly improvements such as the formation of green spaces, the introduction of energy-saving facilities, and the use of environmentally friendly materials, the goal is to provide a base for education that supports the emotional and character development of students, and a comfortable space for local residents that further improves environmental awareness.

c. Operation of Curriculum to Raise Awareness on Green Growth

47 schools have been designated and operated as “Green Growth Research Schools,” at which the relevant curriculum is being developed and offered, and intra/extracurricular experience programs including programs connecting to local communities are being operated. These are shared at meetings to report the results, which in turn further raise the level of green growth awareness.

In addition, elementary school textbooks are now including green growth-related contents, such as information on energy-saving lifestyles, high-efficiency energy, recycled energy, and clean energy, and auxiliary green growth teaching materials are being developed and supplied to build a basis for the operation of a green growth curriculum.

d. Operation of Publicity and Experience Programs for the Establishment of a Green Growth Culture

For national publicity and to raise awareness on green growth, the Korean government installed a “permanent publicity center” in Seoul, which introduces the low-carbon green growth policies of the government and showcases new green tech products. Along with domestic education facilities and scientific events, showcase facilities related to green growth have been installed, and publicity media clips are played.

For students, green growth experience programs such as “everyday life science class” and “science camp” are being operated, giving them the opportunity to experience green technologies, such as recycled energy. Also, for the general public, green growth continuing education is being operated, extending opportunities for green education and training citizens to implement green growth in their daily lives.

Also, to extend the campaign to households and the local community, parent volunteer organizations, promotional campaigns, a household carbon dioxide emission reduction program and the like are being promoted, and experience programs are being operated in conjunction with local colleges, research institutes, and environmental organizations to raise general awareness.

4. SCP in national priority areas

4.1 Carbon Labeling

a. Overview

To establish a sustainable production/consumption system, reducing carbon emissions for general products as well as energy-consuming products is a necessity. The carbon labeling (carbon mark indication) system is an effective consumer-oriented alternative policy for reducing the carbon emissions of all products and services. Under the system, products must bear a label stating the amount of greenhouse gas emissions produced by the manufacture, transportation

(circulation), use, and scrapping of the product, so as to encourage green consumption by customers.

The carbon labeling system includes certification inspection, certification review, and monitoring, and there are two levels of certification provided: carbon emission certification (level 1) and low-carbon product certification (level 2).

<Level 1: Carbon emission certification>

- Certified only if carbon emission is disclosed and a greenhouse gas reduction plan is announced.
- Refers to the carbon emission per product



<Level 2: Low-carbon product certification>

- Certified only if the product meets the minimum reduction goal
- Refers to products that reduce greenhouse gas



b. Actual Implementation

Through the execution of the carbon labeling system ('09.2) and the development of preparation guidelines ('09.2) for calculating the carbon emissions of each product, an operation base for carbon labelling was prepared. Major points include the conclusion of MOUs relating to carbon labeling with 6 major circulation enterprises, so as to advertise certified products and consumer incentives for the companies. The organization is also providing free education for carbon footprint calculation and certification fee reduction.

As of '09.6, 37 products from 16 companies have been certified, and plans are in place to raise this number to 120 in 2010 and 180 in 2011. Related initiatives that are currently being promoted include the registration of carbon labelling keywords through internet portal sites, showcases for the initial certified products (at 2 government office sites), outdoor promotion of carbon labelling (e.g. through electronic display panels on major buildings), and education for relevant companies and certification targets.

In addition, education about the SPF (Strategic Programme Fund), a matching fund project promoted through an agreement with the British government, is being executed, and the complimentary training and evaluation of the entire certification agency process and theoretical and practical education is being planned.

c. Future Plans

In order to prepare a basis for the vitalization of carbon labelling and carbon emission certification, numerous initiatives are being planned, including the expansion of certification standards for energy-consuming products, the operation of PR booths at various showcases and environmental expositions, the expansion of business agreements with large-scale circulation enterprises to encourage the civil consumption of carbon labeling certified-products, and the preparation of certification standards for low-carbon products in each category.

Furthermore, the promotion of SPF and the international cooperation basis for carbon labelling are being planned through GEDnet.

4.2 Promotion Policy for Sustainability Management

a. Background

As the social impact of businesses is increasing, the demand for responsible role-playing by enterprises increases as well for efficient response to global challenges.

SRI (Socially Responsible Investment) which reflects non-financial achievements of enterprises such as social, environmental, and control structure is quickly growing. Also, various initiatives regarding sustainability management are planned and being expanded at major international organizations. The number of “UN Global Compact”-participating enterprises is growing, and especially the establishment of “ISO 26000” which is an international standard that suggests the responsibilities of business, government, and civil organizations is near.

According to the changes in the environment of global management, securing competitive edge through carrying out social responsibility became a new management tactics for businesses.

b. Policy Objectives and Implementation Status

The fundamental direction of policies for sustainability management is formation of relevant conditions for self-motivated promotion of sustainability management by enterprises. Major policies include governmental rewards to distinguished businesses in sustainability management for raising awareness and extended support. Online self-diagnosis tool was developed to allow businesses to run self-diagnosis on achievements of sustainability management. The businesses with excellent sustainability management results are designated as “environment-friendly business” through screening by the Ministry of Environment, and incentives such as exemption from guidance/supervision are offered. Also, forum

and practice manual for socially responsible management of small/mid-sized companies were established.

Secondly, with respect to the legislation in support of sustainability management, the “Industrial Development Act” was amended in 2007 thus stipulating the promotion support for sustainability management, and the sustainability fundamental law and the social business fosterage law were established the same year as well.

Third, trend investigation and research activities are continuously being carried out as well; targeting major enterprises, investigation on ethical management status has been executed annually since 2003, and search for issues about and reaction to global sustainability management is continuously being carried out. Based on the policies of advanced nations and global trend regarding sustainability management, various support policies and expansion plans for upbringing environment-friendly businesses as internationally recognized global green-management brands are being derived, and the amendment of relevant legislation and management regulations are in promotion.

Finally, as response to the standardization of SR (Social Responsibility) by ISO, domestic special committee has been established and operated since 2002, and for examination of standardization plan and collecting various reflections from those in concern, “SR Standardization Forum” was established in 2005.

c. Future Plans

In spite of the late introduction of sustainability management in Korea, relatively various policies are being promoted, and also expanding quickly.

In the future, in order to encourage self-motivated participation of businesses in sustainability management, support for lacking areas such as various cooperation and networking among interested parties, CSR support for small/mid-sized businesses, and CSR practice in developing nations, and strengthening international activities are in plan. Also, various political methods to promoted environmental management and sustainability management of businesses such as introduction of public announcement system for environmental information and vitalization of green finance supporting environment-friendly businesses are planned.

< Environmental Management Survey Result('07.6) >

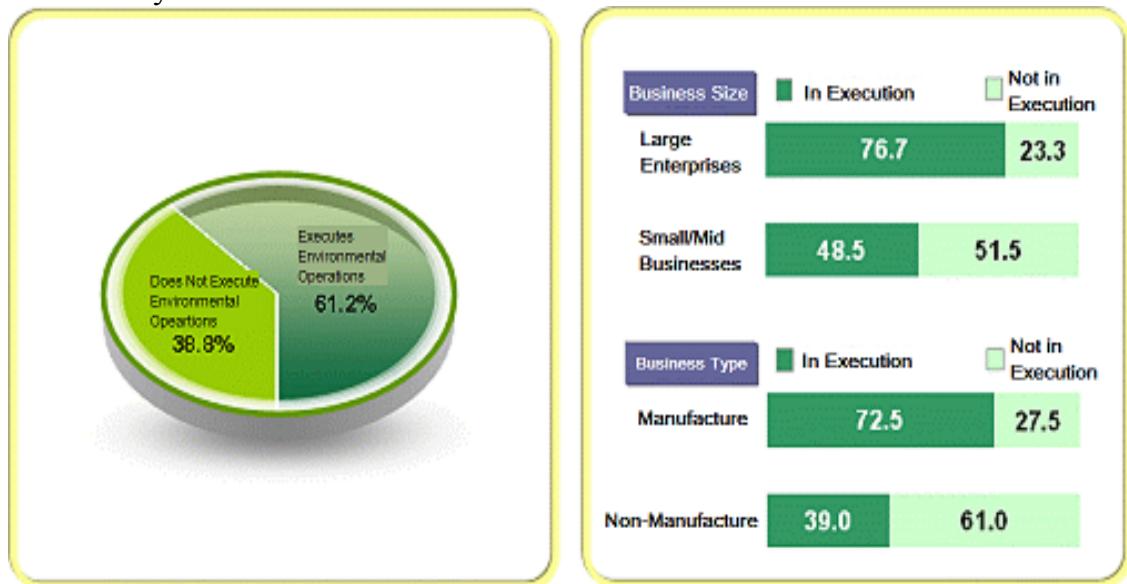
1. Survey overview

- Timeline: '07. 6. 1 ~ 6. 30 (1 month)
- Target: Businesses with over 100 employees dealing with environmental issues
- Sample: 430 businesses
※ Manufacturing 284 (66%), Other 146 (34%)

2. Outcome

□ Status of Environmental Management

- Status of the Promotion of Business Management with Environmental Considerations
 - 61% of domestic businesses with over 100 employees were found to carry out environmental operations.
 - Non-manufacturing businesses were found to be promoting environmental management more actively than manufacturing businesses, and large enterprises were found to be promoting environmental management more actively than small/mid-sized businesses.



- Distinguished businesses with environmental management are already exceeding the regulation levels on various environmental metrics in order to achieve long-term environmental competitiveness, based on the **will and support of executives**.
 - Major cases include the **publication of environmental performance reports and sustainability reports, the introduction of environmental accounting, the development of eco-friendly products through the application of eco-**

design at the product design stage, and pioneering activities in the area of greenhouse gas reduction.

- Major initiatives for environmental management were to improve company image and product awareness (27.0%), to react to the demand of consumers and investors (21.3%), and to reduce environmental cost and improve productivity (16.0%).
 - **Major reasons for not executing environmental management** were found to be difficulty in recruiting relevant/expert human resources (25.7%), difficulty in raising investment/operation funds (23.4%), and lack of political support (15.0%).
- The businesses that executed environmental management responded that for **environmental management measures**, waste reduction (87%) and environment/safety accident prevention (85%) are promoted.
 - As the preparation and response regarding new issues such as greenhouse gas reduction (28%) and the development of environment-friendly products (36%) were found to be low, pioneering efforts to prepare for internationally strengthening environmental regulation appear to be necessary.
- **Among government policies for the promotion of the environmental management of businesses**, the environmental labeling system (90%) and the eco-friendly business designation system (88%) were found to be well recognized, and as one of the means for environmental management, the use of ISO 14001 certification was found to be high.
 - In addition, 82% of the businesses already executing environmental management and 72% of those that were not responded that the importance of environmental management will increase in the future.
 - Only 2% of businesses executing environmental management responded that they planned to decrease the funding estimate ratio of the environmental area.
 - It can be inferred that environmental management will positively influence the competitiveness of businesses in the long run, and it indicates the intention of businesses to actively respond to strengthening environmental regulations.
- To promote the environmental management of businesses, Ministry of Environment has devised an environment-friendly business designation system, supply and dissemination of environmental management methods, and an environmental labelling system.
 - As the importance of environmental operations is expected to grow in the future; efforts to vitalize environmental management are being made through the **preparation of a system to encourage environmental information disclosure by businesses, the development of the environmental consulting industry, and the eco-design support project to promote the production of**

environment-friendly products.

- For the establishment and promotion of effective policies in support of environmental management, regular monitoring would be carried out.

4.3 Promotion of Eco-Design Program for Sustainable Production

Since 2004, the lifecycle inventory (LCI) has been adopted as a way to promote the eco-friendly design of products. As of June 2009, LCIs have been created for 202 items, and these are available to the public at the homepage (www.kncpc.re.kr/lci). Also, Product Assessment for Sustainable Solutions (PASS), a software that can run LCA by utilizing LCI DB, is developed in order to support the objective and exact evaluation of environmental characteristics.

4.4 New Supply and Expansion of Technology in Circulation/Distribution

a. Background

The circulation/distribution industry is recognized as a key business that is vital to achieving competitive dominance, especially in today's information-oriented and price-competitive society. To provide the customer with the required amount of goods, at the correct place and time and for the minimum cost, this industry, perhaps more than any other, requires cutting-edge IT, which it actively incorporates.

Recently, to improve the business efficiency of circulation/distribution, within the same brand product, the option of unit purchase has been made available, and the application of Radio Frequency Identifier (RFID) technology, which enables one-touch recognition of all products, is being expanded. In the United States, this technology has been expanded to Wal-Mart and Sam's Club, as well as the Department of Defense and the medical/pharmaceutical industry. In Europe, the standardization of RFID technology and its industrial applications is being executed on a large scale.

Within Korea, the need to develop new services is leading to the systematic development of new RFID technology applications in the area of circulation/distribution, which is expanding Korea's international competitiveness and supporting the introduction of new technology.

b. Policy Objectives and Current Status

The policies on the supply of new technology for circulation/distribution utilize the RFID industrial vitalization support center as an opening for industrial

applications and the introduction of new technologies, and promote the development of new technology for each area of import/export, consumer sales, and retrieval.

Looking at the status of promotion thus far, 52 national standards (KS) have developed around the support center, collecting the opinions of domestic experts and the industry as a fundamental project for the industrial distribution of RFID technology, and a technical training program for improving understanding of technology industrialization and strengthening practical capability was provided to 3,832 people. A particular achievement in this area was the introduction of RFID management specialist and consultant licenses in Korea. Currently, 388 professionals have been certified, and an international certification center for RFID performance evaluation was established, the 10th of its kind in the world, providing a vital service to the industry.

Secondly, to raise awareness for RFID and support supply, the RFID industrialization awards have been held every year since 2006, through which 3 companies have been awarded presidential commendations, and 11 companies have been given commendations by the Minister of Knowledge Economy. In addition, a staff forum was held, in which 120 representatives from major industries participated to raise awareness of new technologies. To support the domestic introduction of RFID, an international conference has been held five times since 2005, providing practical case studies to the industry, guidelines for each industry on RFID introduction and development, and site application showcases for large supermarkets and distribution centers have also been held.

Finally, the development of RFID technology with respect to circulation/distribution classifies the target customers for each key area into small categories, carrying out 4 technological development tasks with the goal of developing the key technologies required in each area. The 4 technological developments are Ubiquitous Global Logistics Platform (UGLP) for import/export, Ubiquitous RFID Environment Collaboration Arena (URECA) for distribution businesses, Ubiquitous Product Lifecycle Unified System (UPLUS) for the management of logistics and the history of products, and Green Logistics Oriented Business Environment (GLOBE), which is a green logistics application based on retrieval.

c. Future Plans

The informatization of the circulation/distribution industry closely connects production and consumption, contributing to Korea's industrial development and economic vitalization. As such, integral technology support and industrialization

expansion for the easy and convenient use of RFID technology by the industry will be promoted.

Based on this, an advertisement and support system will be prepared that allows businesses to select and incorporate the key technologies that they need, from import/export to consumer sales, by examining the connection potential of technological developments for each area.

Accordingly, the operations of the leaders' group and staff forum will continue in order to raise awareness, and the relevant infrastructure tasks such as technical force training, licensing system operation, strengthening activities in international standardization bodies, consulting for new technology introduction, and customized training visits will be promoted.

4.5 Construction and Operation of Circulation Monitoring and Statistics System

a. Background

Following the deregulation of the circulation industry in 1996, the industry has been dominated by large circulation companies; this in turn has made operation difficult for small/mid-sized companies in the industry. Recently, due to changes in consumer patterns, new business models such as large supermarkets and convenience stores have grown, while the sales of small/mid-sized companies have dropped dramatically.

In addition, growing business models such as franchise, home shopping, and mail order are suggested as alternatives for strengthening competitive power through franchising and organization, but a statistics system that could monitor the status of the related business is lacking.

Statistics are essential for businesses to establish management tactics and circulation policies. As such, the construction and operation of a statistics system shall be an important fundamental infrastructure for the development of the domestic circulation/distribution industry.

b. Policy Objectives and Current Status

Once a scientific and information-based knowledge infrastructure is established for the industry, the government can establish effective circulation policies, and businesses can carry out precise decision-making, which will increase productivity on a national level. From this perspective, the major policies for the construction of a statistics system are as follows.

First, for the regular status inspection of small/mid-sized circulation businesses, through a detailed examination conducted every three years of the status, management situation and so forth of the circulation businesses, franchises, and mail order businesses, the “Small/Mid-Sized Circulation Industry Bibliography,” “Franchise Industry Bibliography,” and “Mail Order Business Bibliography” have been published and distributed. Based on the inspection results, motive preparation for policies to support small/medium-sized companies and detailed policy tasks were derived.

Secondly, with respect to the current trend and prospects of small/medium-sized circulation and local circulation companies, the trend and prospects of individual retail businesses in 7 major cities were predicted, through the retail business survey index carried out each quarter.

Third, with respect to the database implementation of the status investigation of small/medium-sized circulation businesses, the investigation results were updated through the existing statistics DB.

Fourth, with respect to database integration and the development of a standard database, as various agencies currently formulate and announce circulation-related statistics, to achieve database integration, the standardization of investigation items across all agencies must first be executed. A guideline for statistics investigation methodology was established to raise awareness regarding the compatibility of statistical information, and further on, the formation of a conference group among circulation statistics investigation agencies was suggested.

c. Future Plans

To improve its utility, the statistical information will be provided online. If all statistics are entered into the database in the same web environment and are utilized in time-series analysis, the productivity and utility of circulation statistics may be expected to improve.

Also, to differentiate from the small/mid-size status investigation project executed every three years, investigation targets will be expanded and examined sporadically each year, so as to provide appropriate and trustworthy statistics on the whole circulation industry.