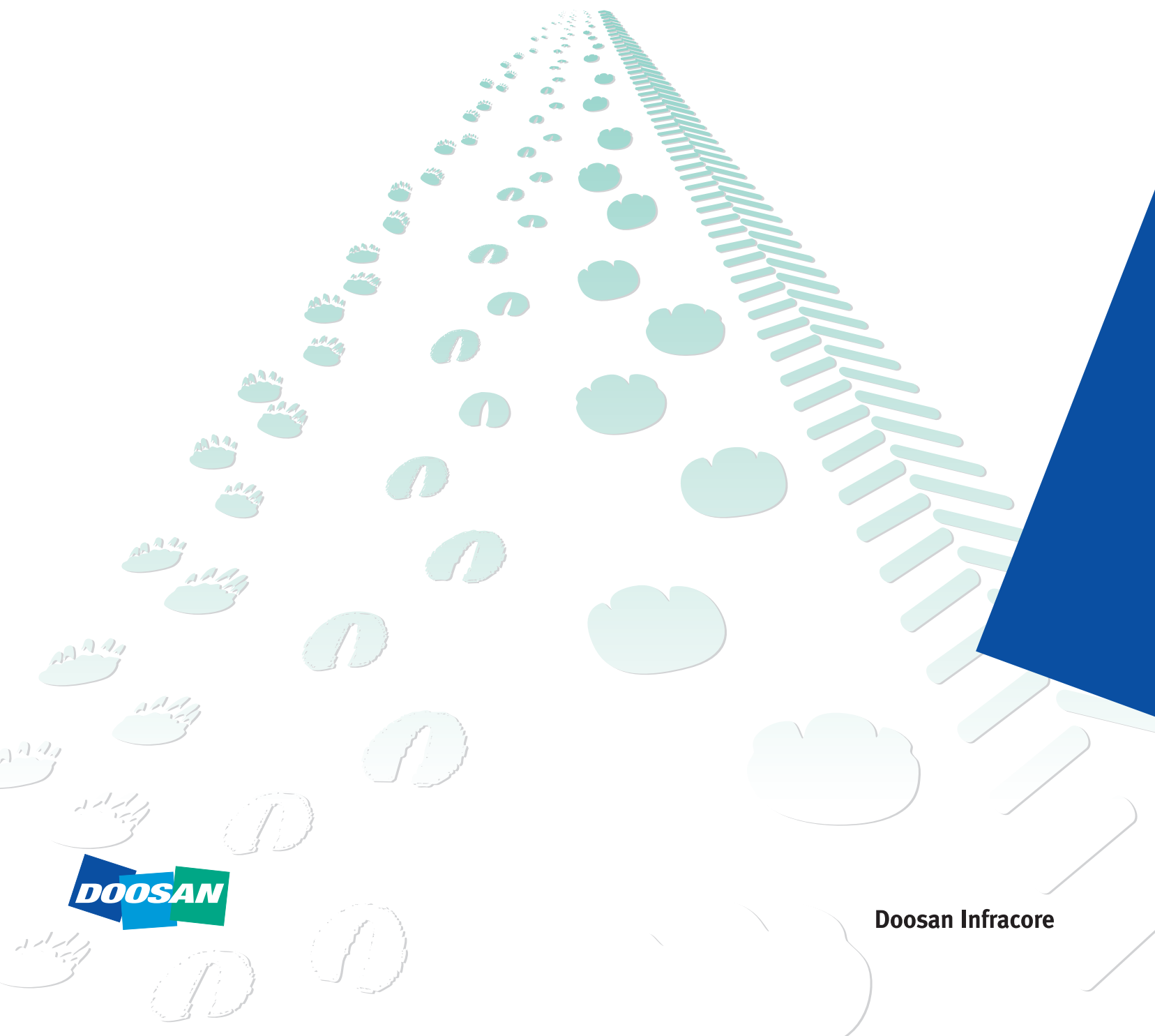


Power Comes from Nature[●]



About this report

Outline of the report

This report is the second annual environmental report published by Doosan Infracore. This report describes the environmental management activities Doosan Infracore performed in the past year, and contains where it must be headed to move on to sustainability management activities. Doosan Infracore is trying not only to improve the environment, but also to create a sustainable and forward-looking relationship with stakeholders including customers, suppliers and local communities.

Scope of the report

This report describes major environmental activities, outcomes and future plans until December 2009, picking up where the environmental report of last year left off. It mainly covers the Incheon Plant and the Changwon Plant (including Changwon Plants 1 & 3), and wherever necessary, included the activities of the Seoul Office, major overseas plants, and the Gunsan plant which was established in 2009 to show how Doosan Infracore has grown globally.

Guideline

This report was prepared in accordance with the Ministry of Environment's environmental report guideline for 2007, and the environmental performance indicators of the GRI (Global Reporting Initiative) G3 guideline.

Additional information and contact information

For additional information, you can refer to the environmental management section of the homepage (www.doosaninfracore.co.kr) of Doosan Infracore, its webzine and annual report.

Doosan Infracore EHS Planning Team 7-11, Hwasu-dong, Dong-gu, Incheon

Tel: 032-211-1367

Fax: 032-211-1348

E-mail: environment.infracore@doosan.com

Head office and Incheon factory

Head office and Incheon factory

Hwasu-dong, Dong-gu, Incheon

032)211-1114

Changwon factory 1

Namsan-dong, Changwon,
Southern Gyeongsang Province

055)280-4114

Changwon factory 3

82, Daewon-dong, Changwon, Southern
Gyeongsang Province

055)270-0497

Parts Center

Palgok-2-dong, Ansan, Gyeonggi Province

031)400-2114

Seoul office

22F~26F, Euljiro-6-ga, Jung-gu, Seoul

02)3398-8114

Power Comes from Nature⁺

Thinking about our Planet

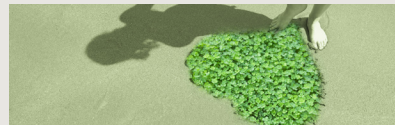


32

Responding to Climate Change

Strategies for Responding to Climate Change	34
Development of Technologies to Respond to Climate Change	36
Responding to climate change and building the organizational culture	37
Management and Reduction of Greenhouse Gas Emissions	38

Sharing Happiness

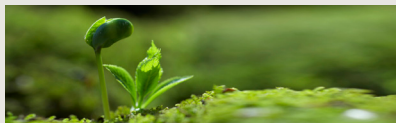


50

Reinforcement of Social Communication

Reinforcement of Social Communication	52
Preserving the Environment of Local Communities	53
Social Contribution Activities	54
Safety and Health Management	56

Growing with Nature



40

Clean Production Considering the Environment Growing with Nature

Use of Resources and Water	42
Management of Pollutants	43
Management of Harmful Substances	45
Eco-friendly Transportation and Packaging	46
Responding to Global Environmental Regulations	47
Waste Management	48
Soil Management and Responding to Civil Complaints	49

APPENDIX



58

Incheon Plant	60
Changwon Plant	61
Gunsan Plant	62
Doosan Infracore Co., Ltd., China (DICC)	63
Environmental Report Guideline Index	64
Independent Assurance Opinion	65
Glossary	67
Reader Survey	68

Contents

CEO Message	2
2009 Highlight	4

1

Building up the Next Green Step



14

Reinforcement of the Environmental Management System

EHS Management Vision and Strategy	16
EHS Management System	19
Environmental Costs and Benefits	23

Global Leader Doosan Infracore



6

About Doosan Infracore

Doosan Infracore	8
------------------	---

Leading the Future



24

Development of Eco-friendly Products

Eco-friendly R&D System	26
-------------------------	----

CEO Message



President & CEO Yongsung Kim

Yong Sung Kim



Dear stakeholders,

I really appreciate your patronage and support of Doosan Infracore.

Despite the continuing global economic crisis Doosan Infracore has been preparing for the future by improving our business competence, enhancing our eco-friendly technology and reinforcing our environmental management activities through change and innovation. I find it a great pleasure to disclose the environmental management activities of Doosan Infracore and the outcomes through the second environmental report to our stakeholders, such as customers, shareholders, local communities and employees.

At present the world is facing a global environmental issue, i.e. climate change, and more emphasis than ever is placed on the roles corporations must play for the environment of the Earth and social issues. Doosan Infracore has continued to establish and carry out environmental management strategies to fulfill such roles, and grow into a **Global Leading Green-ISB* Company**. * ISB(Infrastructure Support Business)

In particular, we have been reducing greenhouse gas emissions and continuously developing eco-friendly products capable of reducing the consumption of resources like fuel in an effort to provide new values for our customers, and last year we developed an eco-friendly construction equipment called Concept Excavator 'CX' using the hybrid technology, and won the **"Reddot Design Award 2009."**

In the social sector we have been reinforcing partnership with suppliers, based on mutual trust, by proclaiming the conclusion of the win-win cooperation and fair trade agreement, and continuously trying to share with local communities by developing diverse social contribution programs for the sake of serving local communities.

In the belief that these environmental management activities will lay the foundation for Doosan Infracore's entry into the global top 5 in the ISB, and enable us to transform ourselves into a corporation with global leadership, we will continuously think of better environmental management activities and translating them into action.

Once again I want to express my gratitude to you for your interest in and affection for Doosan Infracore's environmental management. We at Doosan Infracore will listen harder to the voices of various stakeholders, and try harder to become a sustainable corporation.

I ask for your constant support and encouragement.

2009 Highlight

Global EHS Audit

To improve on the EHS management system, we developed the Global Audit Protocol on our own, and we are using this protocol to perform Global EHS Audit for our operations at home and abroad starting in 2009. The Global Audit for all our operations and the implementation of the EHS System in overseas operations upgraded the level of EHS management as a global corporation.

EHS e-Learning

To further enhance the effect of EHS training, we provided all employees via online with the "Doosan EHS basic training program" consisting of a total of 19 courses, concerning environmental & safety guidelines, climate change and green management, in four areas, i.e. common, safety, health and environment, and solidified Doosan Infracore's will to practice environmental management.

Reddot Design Award 2009

'CX,' the result of the advanced design for securing the competitiveness of future products on the basis of the eco transformer concept, was rated as the 'Dream Excavator,' which faithfully expressed eco-friendliness, safety, usability and economic efficiency and won the 'Reddot Design Award 2009,' one of the world's top 3 industrial design awards in the concept category. The world-best design capability of Doosan Infracore has been recognized once again.

Euro5 Engine

To respond to the Euro5, we are developing three types of Euro5 engines based on the SCR (Selective Catalytic Reduction) method. We are developing Euro5 engines with the aim of clean engines with high output, high fuel efficiency and minimum emissions, and our cutting-edge eco-friendly technology preemptively satisfying the emission regulation yet to go into effect is attracting global attention.

Participation in CDP 2009

We participated in the CDP (Carbon Disclosure Project) for disclosing information of climate change responses to external stakeholders, and disclosed the risks and opportunities with regard to climate change perceived by Doosan Infracore, the results of greenhouse gas inventory building, our energy reduction goal and energy consumption status. By actively sharing information through the CDP, we shared what Doosan Infracore thinks about climate change with stakeholders and had an opportunity to lay the systematic foundation for low-carbon management.

Named an Outstanding Company in Social Contribution in Yantai, China

In 2009 the Chinese affiliate received an appreciation plaque at the 'foreign corporation public interest activity commendation ceremony, hosted by the Ministry of Commerce of the People's Republic of China, in recognition of its support of local education programs it has provided since 2001 and its contribution to economic development. In the national harmony commendation ceremony 2008 Doosan Infracore was commended for excellence in fulfillment of social responsibilities. We are recognized as a global enterprise sharing joys with the local community.

Installation of Wheel Cleaning Facilities

If there is a lot of traffic on an unpaved road, fugitive dust will take place, and pollutants will move around. There is a high risk of adversely affecting the surrounding environment. Accordingly, we are operating wheel-cleaning facilities to reduce the environmental impact of the vehicles going in and out. It is known that the wheel-cleaning facilities reduce about 40% of fugitive dust, and to keep the roads clean, we are considering expanding the wheel-cleaning facilities.

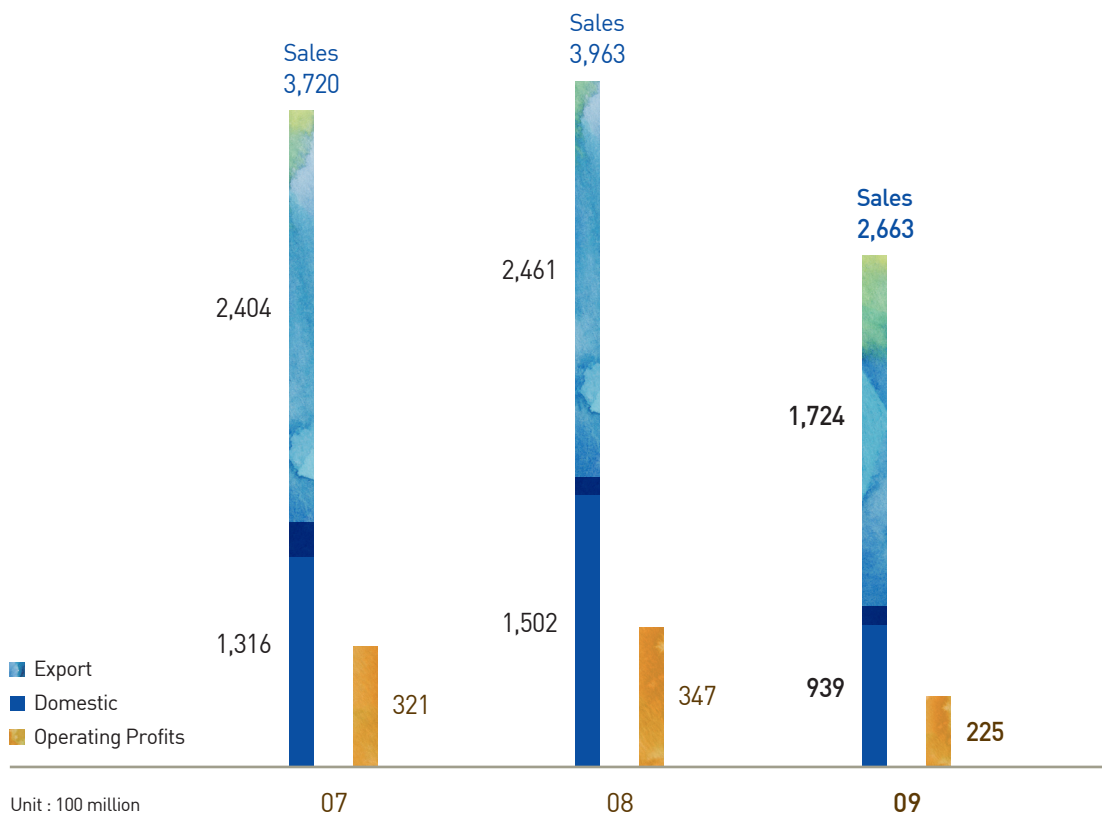
Eco Friendly Factory

In an effort to make its workplaces eco-friendly, Doosan Infracore has been trying to make lively workplaces through the Eco-friendly Factory project since 2008. In recognition of its excellence the rooftop garden on top of the head office received the grand prize in the private sector (rooftop afforestation category) at the 6th Incheon Landscape Award ceremony hosted by the Incheon Metropolitan Government.

Global Leader Doosan Infracore

Our attitude toward nature and the efforts we make for nature make us a company that cherishes the value of environment.

Global-leading Doosan Infracore understands the value of responsibility as we are taking a step closer to our goal.



Our sales and operating profits have continued to grow since 2005, but due to the sluggish infrastructure industry, the market conditions were not favorable in 2009. Doosan Infracore's sales and operating profits were KRW2,663.2 billion and KRW225.2 billion respectively, only 67% as compared to the previous year, but we improved productivity and profitability through operational innovation.



About Doosan Infracore

Doosan Infracore

8



A forward-looking and strong innovative company with
a spirit of endless challenge to the top.

Doosan Infracore learns from nature,
and starts in nature



Doosan Infracore

About Doosan Infracore

A global leader in the ISB (Infrastructure Support Business)

Doosan Infracore began its history in 1937 as Chosun Machine Works, Korea's first large-scale machinery factory. Doosan Infracore is Korea's top-notch machinery manufacturer and a global enterprise with world-best competitiveness. We are unrivalled in all our business areas, such as construction equipment, machine tools, engines and forklifts.

The ISB (Infrastructure Support Business) is a combination of all industries related to the construction and operation of social infrastructure. This market has a limitless growth potential due to the rapid urbanization and the growth of emerging markets. Based on its success in the machinery and equipment area, the core axis of the ISB, Doosan Infracore will further expand our existing business areas, and actively break into new ISB areas to become one of the global top 5 in the ISB.

Operations

Doosan Infracore has a global network consisting of production and sales subsidiaries, branch centers, technical support center and parts center in various countries around the world, including China, Europe and North America. In Korea where the head office is located, the Incheon Plant, the Changwon Plant and the Gunsan Plant are producing construction equipment, engines, machine tools and forklifts.

Financial Status

In 2009 the financial crisis, which started in the US at the end of 2008, was spreading to the object economy, and difficult business conditions, such as economic recession and discontinuation of investments, continued in advanced countries like the US and Europe. Due to the resulting slump of the entire infrastructure industry, market conditions were very poor. Doosan Infracore was no exception. Our sales were KRW2,633.2 billion, 67% of those of the previous year, and our operating profits were KRW225.2 billion, but the company continued to grow to lead the market during the global economic recovery. So the company improved the Gunsan Plant which has the one-shop system, and is continuously developing eco-friendly products, and reinforcing the ties with our global operations. Through these operational innovation activities we have enhanced its productivity and profitability.

Overall, exports amount to KRW1,723.4 billion, accounting for 64.8% of total sales. Dividing the sales into different divisions, the construction equipment business accounts for 50% of total sales, machine tools about 16%, engines & materials about 16%, forklifts about 12% and parts center about 7%.

Domestic operations

Company Name	Doosan Infracore Co., Ltd.
Location	7-11, Hwasu-dong, Dong-gu, Incheon Metropolitan City
CEO	Yongsung Kim
Date of Establishment	June 1937
Business Areas	Construction equipment, machine tools, engines, forklifts
Number of Employees	4,700 (full-time employees)
Current Status	Incheon, Changwon and Gunsan Plant, Seoul Office, Doosan R&D center, etc.



Business Areas

Construction Equipment Global Top 3 in Construction Equipment

Doosan Infracore is a global leading construction equipment maker. Since we built the global production system in 1990, we have been concentrating on building our business network. The construction equipment area has large production facilities in Korea, China and Belgium, sales organizations, branch centers, and a global network of 578 dealers across the globe, thereby firmly establishing the status as a global corporation. In 2007 we acquired the US-based expert with compact construction equipment Ingersol Rand (Bobcats, attachments and utility), and Norway's Moxy in 2008, to securing a global production base. By developing eco-friendly equipments, which is gaining global importance, and concentrating on making products based on a thorough quality assurance system, we acquired various quality and environment-related certifications, such as

ISO 9001, ISO 14001, Outdoor Noise Directive, GS, and EN 45001, thereby securing an advanced product portfolio and technical know-how.

Ongoing strategic investment and R&D would be a key to solving the current economic downturn. We are thoroughly preparing for upcoming opportunities as overseas plants like the one in China are innovating their operations and we are continuing to invest in infrastructure, including new plants.

By completing the global CE system, to which Bobcat is completely integrate, the construction equipment area is making a fresh start. To this business group 2010 will become the year when it will achieve the vision of attaining the 'best quality in the industry' and thus continuously growing into a business that will lead vehicle sales.

Machine Tools and Factory Automation Global Top 5 in Metal Cutting

The machine tools and factory automation BG is a top-class machine tool maker leading the development of the global machinery industry with high-speed and high-precision technology. Since we began producing machine tools in 1976, we have expanded our business. Since we successfully developed the turning center in 1980, we succeeded in developing core machine tools one after another on our own, and acquired quality and environment-related certifications like ISO 9001, ISO 14001, CE, UL, EMI and EMC. The excellence of our products is recognized the world over.

The machine tools BG has held its own international machine tools exhibition every two years since 1997, and released and displayed new models. In 2009 when the entire infrastructure industry was sluggish, we participated in global expos like CIMT 2009 and EMO 2009, and held our own DIMF Show 2009. Through these exhibitions we have been enhancing our brand images as a world-class technology leader by publicizing our new technologies.

In 2010 we are planning to carry out differentiated sales strategy in the Chinese market and domestic market that are expected to grow, and build the foundation for the second takeoff of the machine tools and automation business by expanding our sales network in anticipation of the economic recovery in advanced markets, executing regional sales strategies reflecting market characteristics, reinforcing the high-end line-up with new products, reinforcing the so-called China line-up in preparation for the additional growth of the Chinese market. In addition, we will focus our sales efforts on the industrial sector where continued growth of medical and power generation facilities and aviation/military supplies is expected, and generate stable revenues from the high-value-added business. Meanwhile, we will further reinforce our product support to enable customers to efficiently operate their equipments, and thus transform ourselves into a true leader in the industry.

Engines & Materials Global Top Class Engine Maker

Since we started the diesel engine business back in 1958, the engines & materials BG has been leading the domestic engine industry. We completed a large diesel engine plant in 1975, and developed our own model engine in 1985. Based on the R&D capabilities and production technology we accumulated over the years, we developed a low-pollution diesel engine in 1995, a low-pressure natural gas engine for generators and a state-of-the-art common rail engine in the 2000's, and have been supplying them to countries across the world. Also, we developed Euro-4, Tier-3 and US2007 engine in response to the exhaust has emission regulations in the global market, and acquired certifications in respective countries. As we acquired EPA, IMO NOx exhaust certifications, major overseas class certifications, and Euro/Tier certifications. Our world-class eco-friendly technologies and

quality are well recognized.

Despite the delayed recovery of the global market and continued economic recession, the engines & materials BG entered into an agreement for the establishment of 'Xuzho Doosan Engine Co., Ltd.' last year. We will become one of the global top 10 diesel engine makers by 2015, producing 100,000 mid-to large diesel engines. Also, our successful development of small engines expanded our product line-up for penetrating various markets for different uses. As we discovered CNG low floor bus manufacturers Hankuk Fiber and Junjin CSM in 2010, we are expecting to sell more than 500 a year, and we will assign key tasks to each value chain to reinforce Operation Excellence, and concentrate our energies on securing a growth engine of the future by completing the ERP system by the end of the year.

Forklifts Global Top 5 in Industrial Vehicles

The forklifts BG has been leading the domestic logistics equipment industry since we set foot in the forklift industry in 1967, and became a world-class logistics equipment maker that produces more than 150 kinds of high-quality forklifts in domestic and overseas plants.

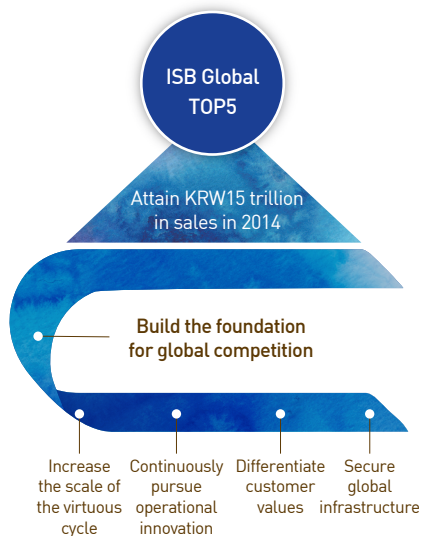
Since we succeeded in developing our own forklift model in 1993, we have applied ergonomic designs to sophisticate product images and emphasized the convenience of drivers. Our products are loved all over the world.

The forklifts BG developed the charger for high-efficiency electrically powered forklifts and introduced the variable pump system to improve the

fuel efficiency of the engine-type forklift in an effort to develop eco-friendly products. As we already acquired quality and environment-related certifications, such as ISO 9001, ISO 14001, UL, CE, EMC and EU Noise Directive, we are recognized as a world-class logistics equipment maker.

In 2009 the forklifts BG has firmly established our position as the domestic market leader (53% market share) despite the serious economic recession, and made efforts to break into new markets. In 2010 we will make further efforts to improve profitability by continuously reducing costs, improving operational efficiency and integrating the parts business.

Doosan Infracore



Vision

ISB Global TOP 5

Doosan Infracore is working hard to realize our vision 'ISB Global TOP 5' meaning that we will grow to become one of the global top 5 companies in the ISB (Infrastructure Support Business). To build the global infrastructure necessary for accomplishing this vision, we established four mid-term strategies: expand the virtuous cycle, continuously pursue operational innovation, differentiate customer values and secure global infrastructure.

Mid-term Goals

Attain sales of KRW15 trillion in 2014

Doosan Infracore's mid-term financial goal is to accomplish KRW15 trillion in sales in 2014 by successfully carrying out strategic tasks.

Strategic Directions

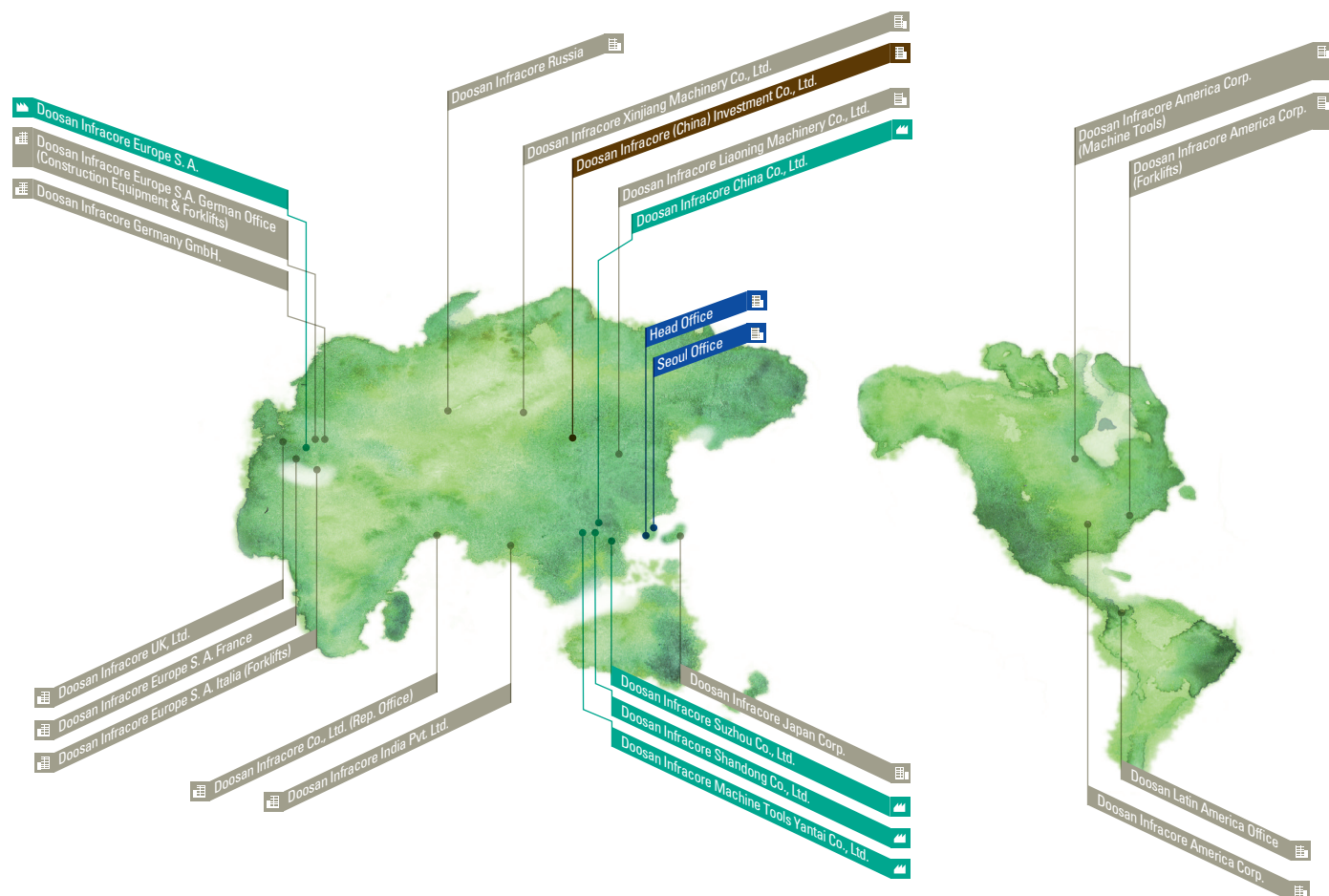
In preparation for the full-scale competition with global leaders, Doosan Infracore will drive the following four strategic directions in order to firmly build the foundation for global competition in all our businesses within the next 5 years.

Expand the virtuous cycle	Continuously pursue operational innovation	Differentiate customer values	Secure global infrastructure
We will build a system to ensure that we will increase our sales to the level fit for a world-class company and thus our scale and core competencies will improve in a virtuous cycle.	We will meet customer needs with continuous operational innovation and have secure world class competitiveness in quality and cost.	We will secure world-class technology and brand identity to provide differentiated customer values.	We will secure world-class human competencies, reinforce our system and carry out fundamental change management to secure the ability to pursue innovation.

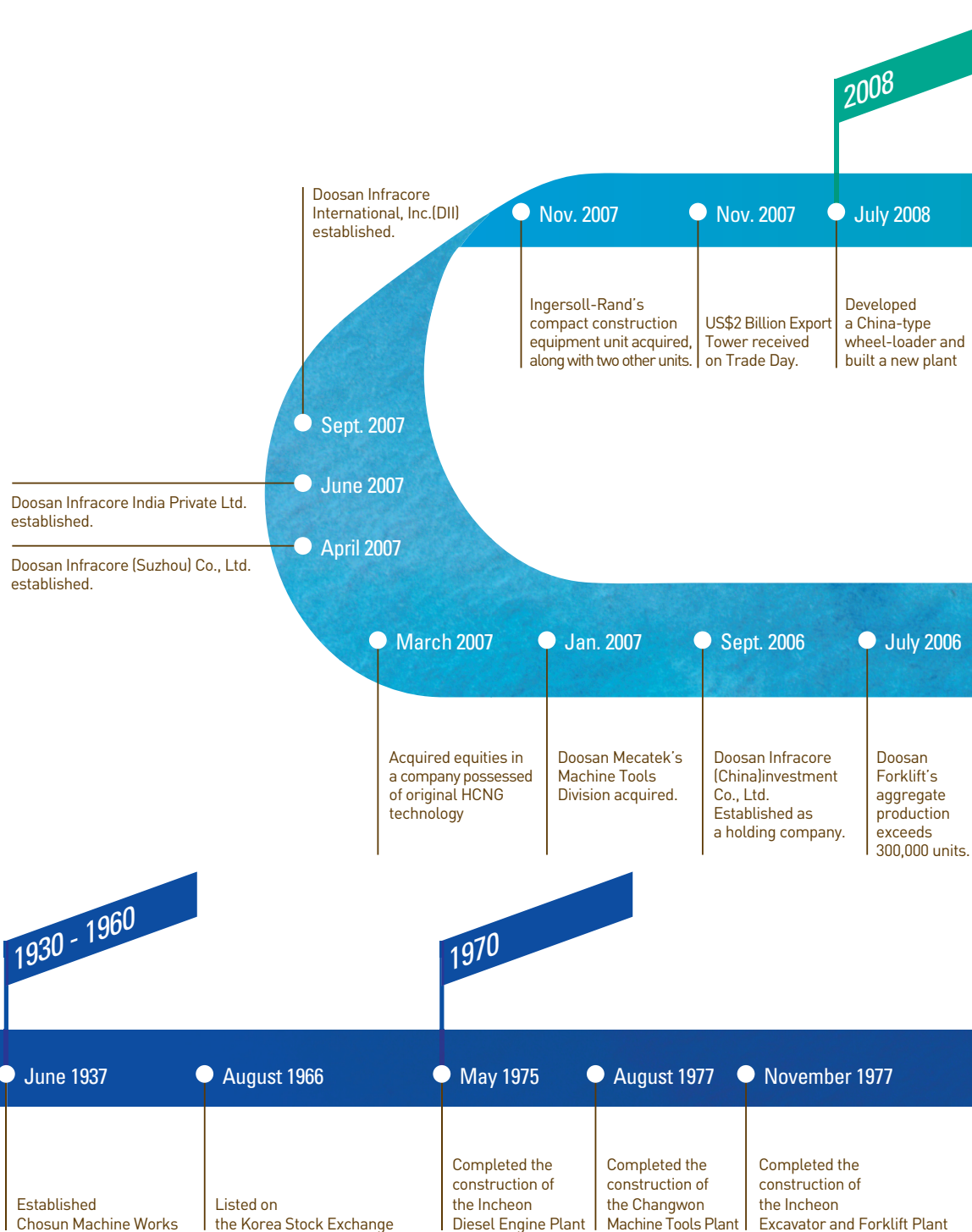


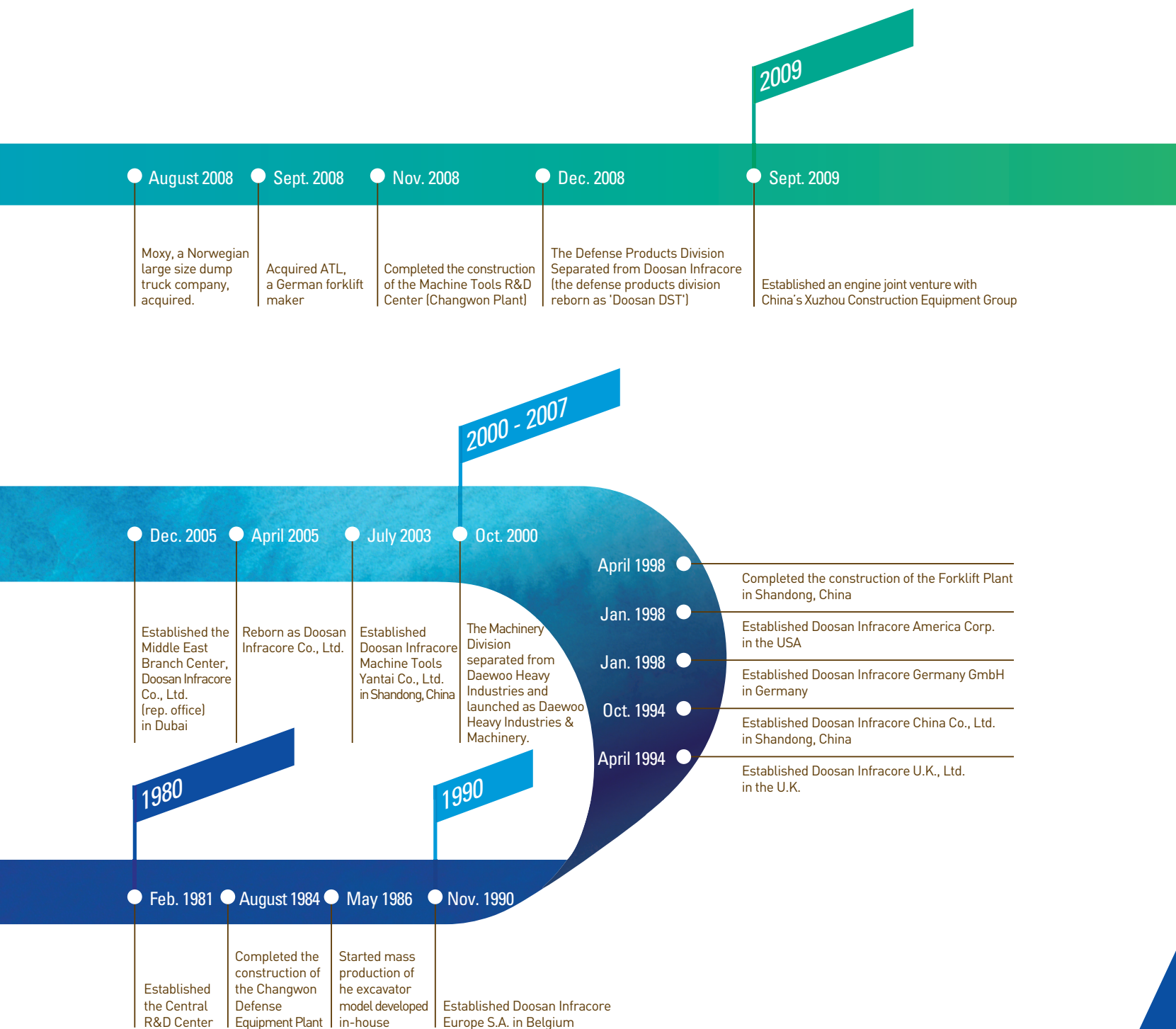
Global Operations

- Production Facilities
- Sales Subsidiaries and Branches



Milestones

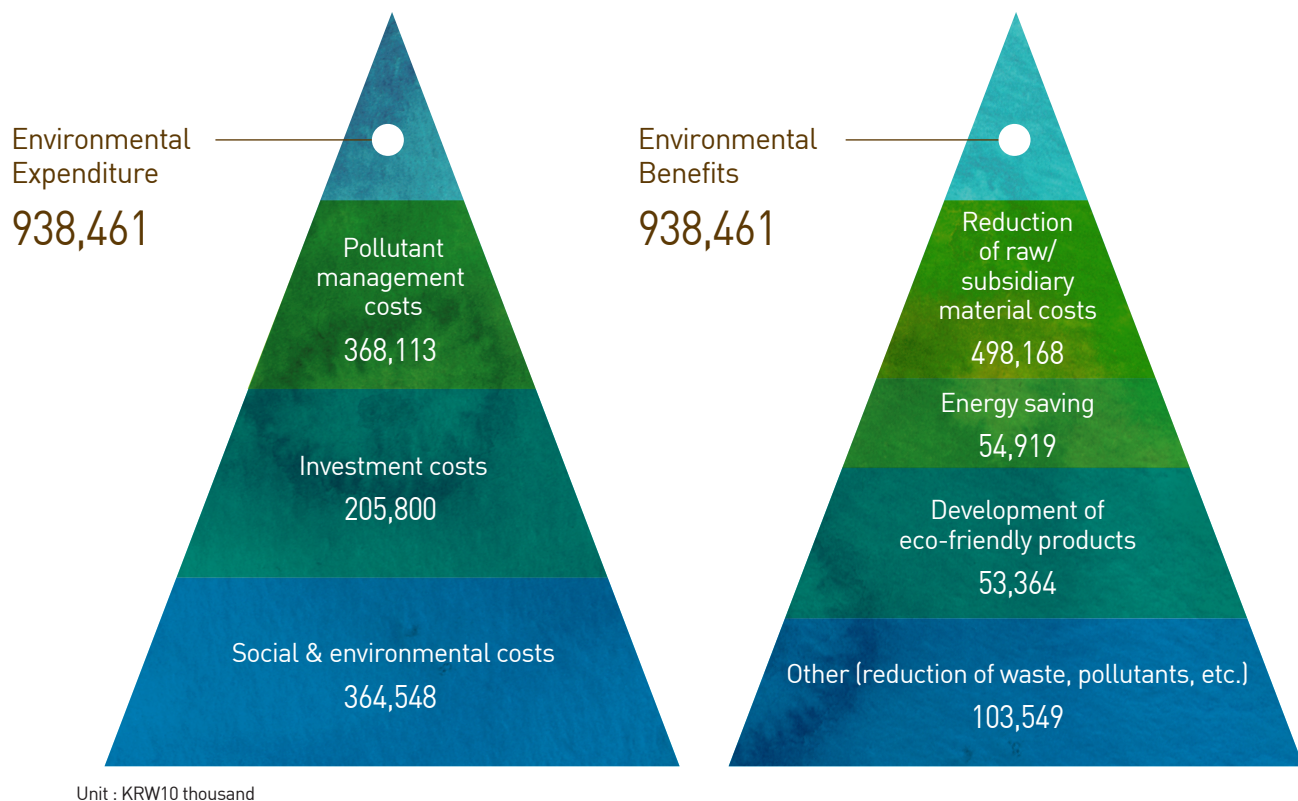




Environmental Management for the Next Green Step

Building up the Next Green Step

As an industry leader in eco-friendly management,
we are making advances in consideration of the value of the environment
across the Value Chain from R&D to production.



Doosan Infracore spent a total of KRW9.4 billion in environmental expenses in 2009, and saved KRW7.1 billion through diverse EHS management activities.

Power Comes
from Nature



Doosan
Infracore



Reinforcement of the environmental management system

EHS Management Vision and Strategy 16

EHS Management System 19

Environmental Costs and Benefits 23



Powerful and dependable,
our excavator uses its long arm to move freely.

Doosan Infracore learns from nature,
and starts in nature.



EHS Management Vision and Strategy



Dong-gu Office of Incheon
Metropolitan City

Youngcheol Goh
Team leader

If Doosan Infracore grows in harmony with local communities, it will become a truly leading company in the transition to sustainability management.

In Dong-gu, particularly the area where the head office of Doosan Infracore and the Incheon Plant are located, residential areas and factories are mixed. A symbiotic relationship with local communities is more important than anything else here. The district office of Dong-gu has been engaged in the Eco-friendly Factory project since 2008 to support the symbiosis between the local community and enterprises in an effort to create a pleasant atmosphere. Previous projects, in which Doosan Infracore participated, like the wall image project, are well received by the local residents. As additional projects are planned in connection with the construction of new roads, we will continue to make efforts to alleviate the local residents' aversion to factories.

In recent years pollutants have been reduced to a remarkable extent, but as local residents' demands for clean business activities are increasing, environmental management cannot be satisfied anymore simply by responding to crackdowns, and enterprises must check themselves and take proactive actions. If a company improves itself and grows in harmony with local communities, it will grow into a truly leading company in the transition from environmental management to sustainability management.

Environmental Safety Policy

Doosan Infracore's environmental safety policy was established in 1995 to publicize the core contents of our environmental management strategies internally and externally, and has since been revised 7 times until the current policy was finalized in 2007. The environmental safety policy stipulates four detailed principles, including the operation of the environmental safety management system aiming at the abundant life of mankind and the conservation of the Earth, and we are using these principles to induce active enterprise-wide participation in environmental health & safety management (EHS management).

Environmental Safety Policy

1 Environmental Safety Management System Operations

We operate the environmental safety management system for improving the direct and indirect environmental safety and health impacts of products, activities and services.

2 Compliance with Environmental Safety Laws and Regulations

We will not only comply with domestic and overseas environmental safety and health laws, regulations and requirements, but also operate more strict in-house standards.

3 Development of Environmental Technology and Prevention of Pollution

We will develop and apply clean production technology to increase the efficiency of resources and energy, and prevent pollution.

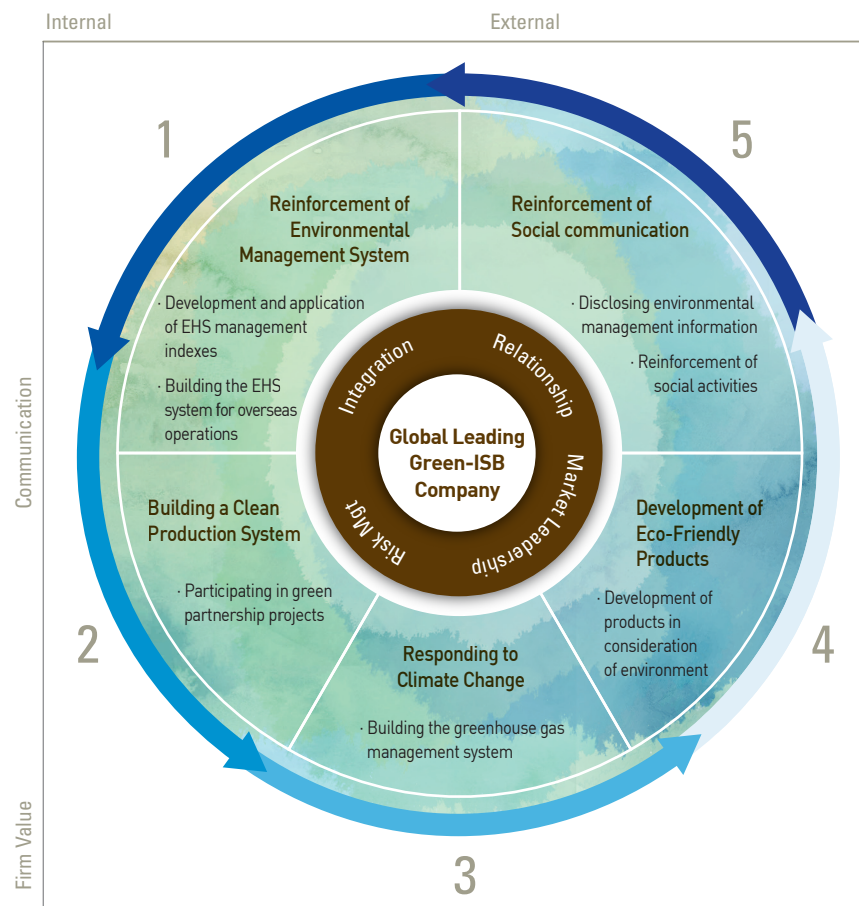
4 Accident-Free Workplaces

We will create comfortable and safe workplaces to improve employees' health and quality of life.



EHS Management Vision and 5 Strategies

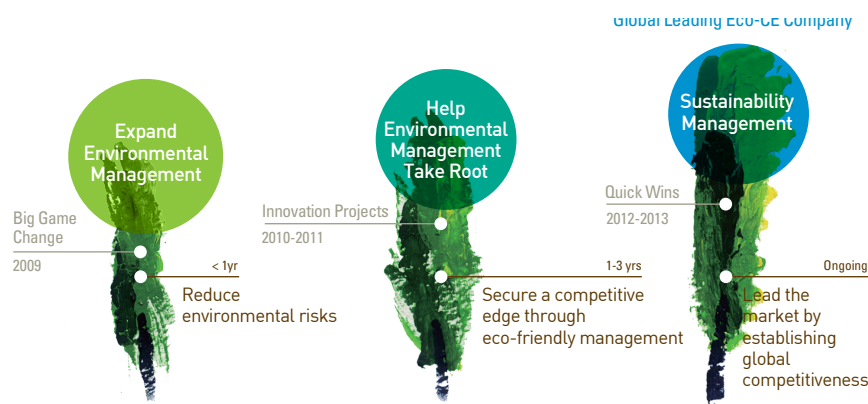
Doosan Infracore proclaimed 'Global Leading Green-ISB Company' as the EHS management vision for the sake of sustainable growth. To realize the EHS management vision, we established 5 strategies: reinforcement of the environmental management system, building a clean production system, responding to climate change, developing eco-friendly products, and reinforcement of social communication. We identified strategic tasks corresponding to these strategies, and are carrying them out. The 5 tasks are based on the circulation system and influence one another. Through the circulation system Integration, Risk Management, Market Leadership, and Relationship (relationship with stakeholders) can be expected. By means of this organic environmental management, Doosan Infracore is trying to go a step sustainable future value beyond environment management.



EHS Management Vision and Strategy

Mid-to Long-term Roadmap

We are following the mid-to long-term roadmap for realizing the EHS management vision 'Global Leading Green-ISO Company'. 2009 was the year of the expansion of EHS management. We installed the EHS management team in the head office, and EHS organizations in overseas workplaces to reinforce the organization. We are building the EHS management system with the aim of ensuring all overseas plants acquire the EHS Global Standard certification. In 2010 we are planning to acquire ISO 14001 and OHSAS 18001 certifications for our operations in China and Europe. In 2010 and 2011 we will capitalize on our existing system and organization to internalize the EHS management system in order to gain a competitive edge. Doosan Infracore will try to become a sound and sustainable company in terms of not only environment, but also stakeholders, while fulfilling our economic and social responsibilities in consideration of the Next Green Step.



Environmental Goals of 2009

- A. Reduction of electric power consumption
- B. Reduction of pollutants (lower than 50% of the level required by laws and regulations regarding pollutants)
- C. Operation of environmental management programs
- D. Management indexes (24)

Environmental Goals

To attain our environmental vision and strategies, we establish environmental goals each year, and accomplish them. In 2009 we developed environmental management indexes and applied it to performance evaluation, thereby reinforcing our power of execution.

As for reduction of electric power consumption, we failed to attain the basic-unit goal as our production volume declined due to economic recession. With regard to reduction of pollutants, the Incheon Plant is at the 50% level and the Changwon Plant is at the 20% level as compared to the legal standard.

As far as environmental management programs involving all departments are concerned, the Incheon Plant carried out 81 programs, and the Changwon Plant carried out 33 programs. We used the management indexes to try and reduce environmental impacts.

In 2010 we will continue to make efforts to attain our environmental goals, establish greenhouse gas emission goals to prevent global warming, carry out environmental management programs, and use the environmental management indexes to continue our improvement initiative.

EHS Management System

Building the EHS Management System

Doosan Infracore's EHS management was intensified in mid-1990's when we established the environmental safety policy.

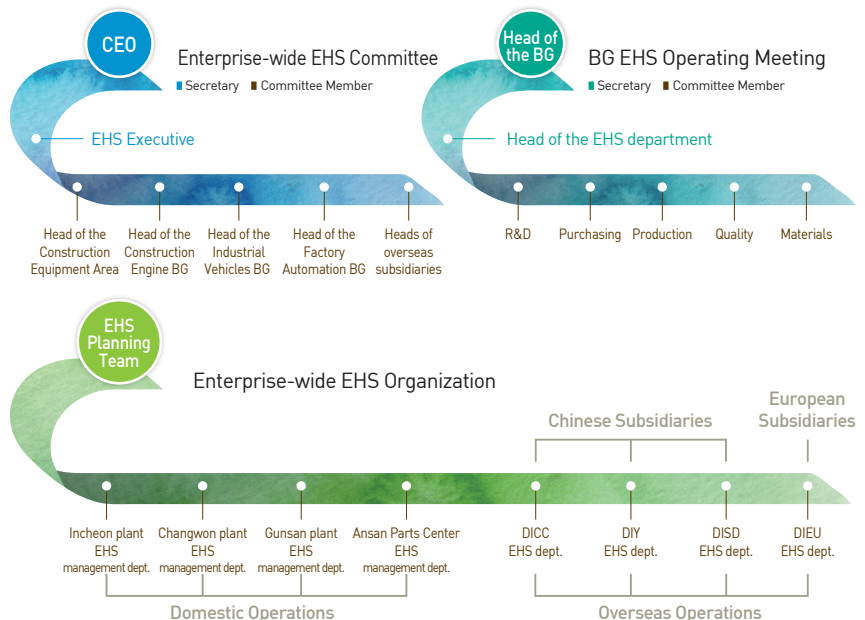
In particular, we implemented the environmental management system (ISO 14001) in consideration of environment with focus on R&D and production activities in an effort to prevent environmental pollution and minimize environmental impacts.

In 2009, on the basis of the results of the enterprise-wide Global Audit, we are working on the ISO 14001 certification for overseas operations that do not have the EHS management system, and we are planning to finish certification of key workplaces by the first half of 2010.

EHS Management Organization

| EHS Committee | The enterprise-wide EHS Committee, consisting of CEO and the head of the BG makes decisions on EHS policies and goal approval, and at each BG the BG EHS monthly operating meeting, hosted by the head of the BG, discuss EHS agenda, and shares the performance as compared to the monthly EHS goal.

| Enterprise-wide EHS Organization | Due to expansion to overseas operations and increasing global environmental issues, we needed systematic and effective organizational operations. For that purpose Doosan Infracore installed the EHS planning team at the head office, and EHS management teams in individual workplaces.



EHS Management System

Evaluation of Environmental Performance

In 2009 we made EHS KPI's at the corporate level, and developed metrics. We use the evaluation system to measure, analyze and evaluate EHS management activities in an effort to make sure that the outcomes of these activities can be improved and enhanced continuously.

In 2010, from among the 30 EHS KPI's about 10 middle categories including environment, safety and health, we are planning to select practical indexes applicable to overseas operations and reflect them in EHS performance evaluation, and thus continuously raise the level of EHS management.

Enterprise-wide Global Audit 2009

As a global corporation Doosan Infracore developed the Global Audit program for the improvement of the EHS management system of overseas operations, and conduct EHS inspection for all our operations every year.

For the enterprise-wide global audit in 2009 two internal safety and health experts and two environmental experts formed two groups and they used the customized audit protocol to conduct the audit.

The Audit revealed that the EHS management level was lower in some overseas operations, including DIY, DISO and DIEU, without the EHS management system, as compared to domestic operations. Accordingly, we are planning to establish the EHS global standards and finish certification by 2010.





Training for examiners



Regular safety training

Customized EHS Training Program

Doosan Infracore is operating EHS training programs customized to competences and requirements at different levels for efficient environmental management. Also, we are utilizing external educational institutions and experts to provide more educational opportunities, and developing training programs fit for different situations. We are publishing monthly “Environmental News” covering key environmental issues. We ensure that educational opportunities are given equally to everyone. Particularly in 2009 we developed the Doosan EHS basic course, an online training program, for all administrative staff and floor managers, and introduced the training program of the HQ to reinforce the competency of the EHS manpower in overseas operations.

	Names of Training Programs	Training Cycle
Managers and Executives	Doosan EHS basic training program	One a year
EHS Managers	Doosan EHS basic training program	One a year
	Working-level EHS management system training	One a year
	Environmental impact assessment/risk assessment training	One a year
	EHS Auditor training	One a year
	Climate change response training (external)	At any time
	Environmental seminar (internal)	At any time
Employees	Doosan EHS basic training program(administrative staff)	One a year
	Introductory courses for new employee training (EHS)	One a year
	Emergency training	One a year
	Regular safety and health training for employees	One a month
Suppliers	Internal safety rules/occupational safety training	One a month

EHS Management System



Doosan EHS Basic Training Program

Doosan EHS Basic Training Program

To increase the effectiveness of EHS training, in 2009, we developed an online course called the "Doosan EHS basic training program," and train all administrative staff and floor managers through this program.

This program consists of a total of 19 courses, including environmental safety policies, climate change response and green management in four areas, i.e. common, safety, health and environment. This program features diverse contents, such as general knowledge of environmental safety and health, special situations of each process, internal principles, and cases of accidents so that trainees can learn in a concrete and effective way.

In 2009 a total of 950 employees of the construction equipment Area and EHS managers participated in this program, and in 2010 this program will be extended to other BG's and other organizations. About 1,500 are planning to take the courses in addition.



Overseas employees visiting Korea

EHS training programs for overseas operations

As far as overseas subsidiaries are concerned, the EHS-related employees of the three subsidiaries in Yantai, China (DICC, DISD and DIY) visited the head office in Korea, and the EHS experts in the head office paid a visit to these subsidiaries in China to directly provide training and technical guidance for EHS personnel. In 2010 this EHS training program will be extended to include the plant in Belgium.

A System for Responding to Environmental Risks

Doosan Infracore defines environmental emergencies related all business activities, and prepared how to respond to them. We are trying to reduce personal and physical damages, and resulting environmental impacts. Environmental emergencies include fire, explosion, failure of preventive facilities, and leakage of various harmful substances, and depending on the scope of the accident, and the degree of personal and physical damages, they are classified into general emergencies and critical emergencies.

We formed an emergency response organization, in which all employees of the workplace participate. We implemented a rapid response system to cope with emergencies and minimize damages and investigate the causes of accidents to devise preventive measures. Also, we organized 40 patrol units across the enterprise. We detect potential environmental emergencies and provide periodical prevention drills to prevent accidents. The Incheon Plant has 26 patrol units, and the Changwon Plant has 14 patrol units. Each patrol unit undergoes scenario-based training customized to possible situations, such as general fire, hazardous materials on fire, and power outage.

In 2009 we added emergency response scenarios, such as falls, stenosis, collision, suffocation and burn, to the drill plan, and conducted 40 drills in total.



Training on how to use a fire extinguisher



Fire extinguisher use drill



Hydrant use drill



Oil leak

Environmental Costs and Benefits

In 2009 Doosan Infracore expended a total of KRW9.4 billion in environmental costs, and saved KRW7.1 billion through diverse EHS management activities. As for the environmental expenditure, KRW3.7 billion was spent on pollutant management, including waste disposal costs, electric power used for operation of pollutant treatment facilities, and manpower costs, and KRW2 billion was spent on investments in environmental facilities, e.g. installation of the low-NOx burner, installation of wheel-cleaning facilities for reducing odor and fugitive dust, and implementation of painting facility THC reduction facilities. Also, KRW3.6 billion was spent as on social contribution activities for local community environment improvement, including the Eco Friendly Factory project and the 1-company 1-road clean management system, and on social and environmental costs for external activities like publication of environmental reports.

Meanwhile, about KRW7.1 billion was saved through reduction of the use of raw materials, waste, pollutant emissions and energy consumption due to EHS management activities, and through development of eco-friendly products.

Doosan Infracore is not currently investing in external environmental investment items, such as carbon funds or SRI management of pension plans. We will continue to increase investments in eco-friendly management activities and social activities to raise the expected benefits from environmental management activities.

Unit : KRW10 thousand

Classification	Activity	Amount
Environmental Expenditure 938,461	Pollutant management costs	368,113
	Investment costs	205,800
	Social & environmental costs	364,548
Environmental Benefits 710,000	Reduction of raw/subsidiary material costs	498,168
	Energy saving	54,919
	Development of eco-friendly products	53,364
	Other (reduction of waste, pollutants, etc.)	103,549

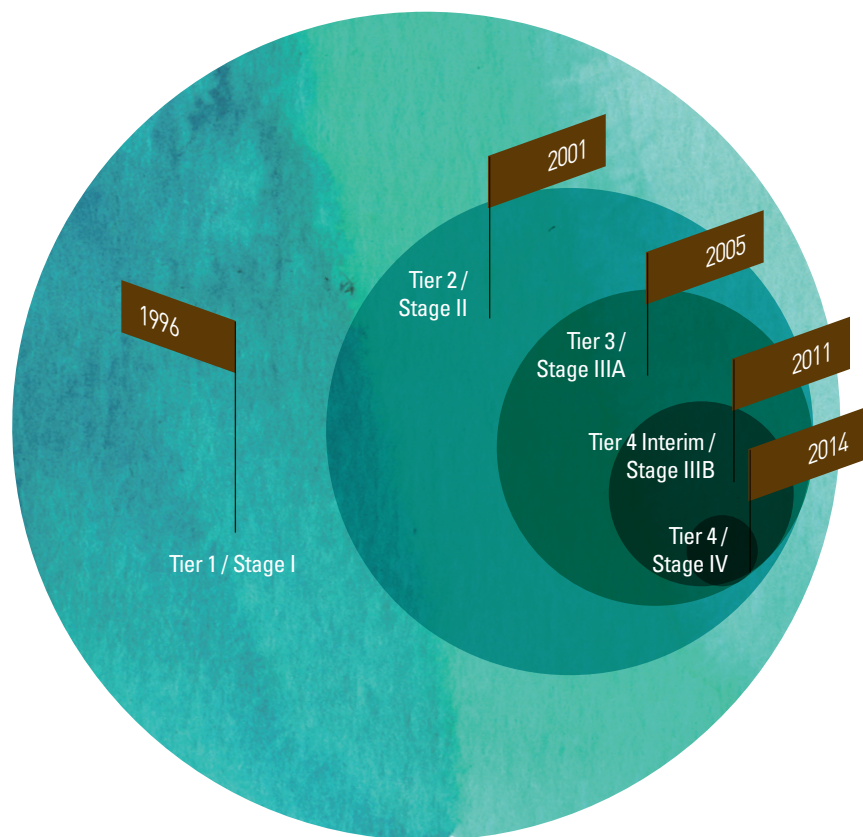


Value Investment Leading the Future

Leading the Future

Investments for development of advanced eco-friendly products will make Doosan Infracore a sound company, and open the eco-friendly future of the infrastructure support business. Doosan Infracore is trying to create better technology and values ahead of others by thinking out of the box.

130 -560kW Range Vehicle



In 2009 we made the Proto engine, and conducted performance development and durability development. Currently we are conducting development to improve the performance of equipment by installing the Proto engine. We are planning to acquire the US EPA certification for the Tier-4 Interim engine by the first half of 2011, and to capitalize on the technical know-how we accumulated through the development of the Tier-4 Interim engine for development of the Tier-4 final engine.



Development of Eco-friendly Products

Eco-friendly R&D System 26



Our wheel-loader has an incredible drive and ultimate power,
and is as durable as a solid horn.

Doosan Infracore learns from nature,
and starts in nature.



Eco-friendly R&D System



CEO of Dongyang
Heavy Construction
Equipment

Cho Eunseok

I hope that Doosan Infracore will become more proud of itself by making eco-friendly products that take the requirements of a few customers into consideration.

Doosan Infracore's products are excellent in design, but stand out in terms of the convenience of use or the durability of consumables. In particular, the company offers outstanding after-sale service, and reflects consumers' opinions well. So I mostly use its products.

If a company considers customers and develops more efficient, eco-friendly and safe products, it will give customers using the products greater satisfaction, and make them feel close to the company. Accordingly, when Doosan Infracore develops an eco-friendly product like a hybrid engine, it must think about how much interest users will have in the improvement of fuel efficiency and the consistent supply of power during operation, and how much they agree on these points. It must also improve the safety equipment. In other words, it must pay attention to small details from the customers' point of view.

Eco-friendly products, which pay close attention to the voices of a small number of customers, will enhance the value of Doosan Infracore, and make their users feel proud as customers.

Eco-friendly R&D System

800 or so professional researchers in the Central R&D Center and the research departments of individual BG's are conducting R&D activities regarding eco-friendly products in consideration of the sound growth and eco-friendly future of Doosan Infracore. The independent research infrastructure of Doosan, which was laid down back in 1981, led to the successful development of our own models of our key products, and enabled us to secure world-best product development capabilities. In 2007 we built state-of-the-art research facilities in Suji, Gyeonggi-do, and have been concentrating on eco-friendly core research projects that will actively help improve environment, and enhance customer values, such as the hybrid power system, the virtual design, the hydraulic system, and friction/abrasion. Doosan Infracore is making endless efforts to become an eco-friendly company that will create advanced technologies and better values through continuous investments and by thinking out of the box in provision for the future.

Commercialization of Eco-friendly Products

Doosan Infracore started researches on prevention of global warming in the 1990's. As a result, we developed an engine using the mechanical injection pump and the turbo intercooler in 1996, and succeeded in commercializing various products of business groups (BG), i.e. construction equipment, machine tools, engines & materials, and forklifts.

Heavy construction equipment R&D for a sustainable future

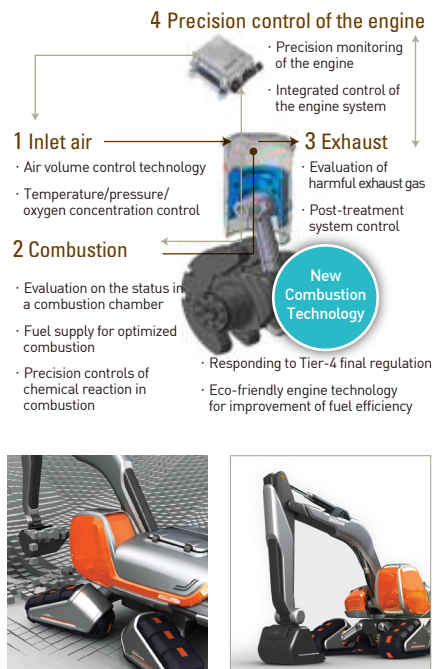
The construction equipment area is aiming to develop a futuristic heavy construction equipment that reduces the use of fossil fuel and greenhouse gas emissions. Its eco-friendly technology is to develop eco-friendly heavy construction equipments that improve energy efficiency in provision for the scarcity of resources in the future and are less harmful to humans and contribute to environmental protection by reducing emissions of pollutants.

When it comes to renewable energy, we are making products that can use 5% bio diesel (BD05), and planning to develop products that will be able to use 30% bio diesel (BD30) by 2012.

'Green engine system'

The 'green engine' refers to a new type of engine that reduces the occurrence of major harmful emissions of conventional diesel engines, i.e. particulate matters (PM) and nitrogen oxide (NOx), in the process of combustion, and that improves efficiency and reduces CO₂ emissions at the same time. This engine technology aims to reduce particulate matters and nitrogen oxide to 1/10 of the current level respectively, and CO₂ emissions by 3%. The green engine technology is a challenging technology that can be obtained only by securing core component technologies like high-pressure fuel injection, high-capacity EGR and intake, and precision control technologies.

As a partner of National Green Project, Doosan Infracore has been developing the 'green engine system' since 2009. We formed a consortium with the top research institutions and universities



we are conducting researches on core technologies like analysis of combustion and chemical reactions, technology for improving the performance of core components, engine performance prediction and design technology, and model-based integrated control technology.

By developing the 'green engine system' Our strength will enable not only to meet upcoming Tier4-Final emission regulation 2014, but also to achieve remarkable fuel savings through high-fuel-efficiency products that combine the green engine technology and the hybrid excavator technology.

Eco transformer concept excavator 'CX'

The keywords are eco-friendly, safety, usability and economic efficiency. Developed on the basis of these keywords, 'CX' is the cutting-edge futuristic construction equipment using the bio diesel (from vegetable fuel), being developed by Doosan Infracore, and the hybrid power technology (which stores the motion energy generated as electrical energy, and makes up for the insufficient engine output). Unlike the mass-production design, it is the result of preliminary design for securing the product competitiveness of the future.

'CX' is being developed on the basis of the 'Eco Transformer' concept with Doosan Infracore's own design. The patent for 'CX' is registered in Korea and China, and it has been on display at Hannover Messe 2009 and its 3D animation was shown at INTERMAT Exhibition 2009. It has been introduced as a new type of construction equipment at various construction equipment exhibitions at home and abroad.

'CX' won the 'Best of the Best' award, the grand prize in the concept category, at Germany's 'Reddot Design Award 2009,' one of the top 3 industry design awards. In particular, 'CX' is rated as the 'Dream Excavator,' which has the sliding cabin with the enhanced omnidirectional visibility, the independent caterpillar-type running gear, the eco-friendly hybrid power system, and the unmanned intelligent automatic working system. Doosan Infracore's global top design capability was recognized once again.

Development of eco-friendly antifreeze

Generally used antifreezing coolant for domestic cars and engines, EG (Ethylene Glycol) type was reported toxicity to humans. Doosan Infracore developed harmless and eco-friendly alternative PG (Propylene Glycol) type coolant with doubled life expectancy in 2009, and planning to commercialize it in 2010.

Meanwhile, Doosan Infracore is trying to develop vegetable antifreeze, which is not harmful to humans and can be naturally degradable, by joining hands with suppliers to continuously develop technology.

Development of long-life oil

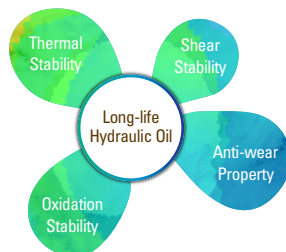
When it comes to hydraulic oil, we drastically improved such properties as thermal stability, shear stability, oxidation stability, and abrasion, and increase the replacement cycle, which used to be 1,000 hours in 2000, to 4,000 hours in 2007, and we validated extension to 6,000 hours in 2009, and we are going to develop an 8,000-hour product in 2010.

In addition, we are developing technology for prolonging the replacement cycle of not only gear oil for the decelerator and transmission, but also engine oil more than 5 times.

Development of biodegradable oil

As the mineral hydraulic oil, used for the hydraulic system of the excavator, will have a great impact on the river, ocean and underground water during replacement and if leaked, Europe is making it mandatory to use biodegradable hydraulic oil, which can be naturally degradable, in workplaces sensitive to environmental pollution. Accordingly, Doosan Infracore completed the vehicle test for the biodegradable hydraulic oil with the degradation rate in excess of 70% according to the OECD 301B method (based on German environmental mark Blue Angel) during exposure, and is planning to commercialize it in 2010.

Technology for Developing Long-life Oil



The Roadmap for Development of Long-life Oil



Eco-friendly R&D System



HP5100



Mynx_6500



P_MX2600ST

Development of eco-friendly automation equipments

The machine tools BG aims to reinforce our high-end line-up by using our high-speed, high-precision technology to develop new models. Also, we are planning to capitalize on the new products, such as the high-value-added large and multi-processing equipment we developed in 2009 to extend our business to include medical and power generation facilities.

Reduction of NC boring lubricant consumption

We re-checked and reset the optimal consumption of the lubricant oil used for lubrication and rust-proofing of the feed axis of the NC boring machine. We improved the feed axis lubrication and rust-proof, improved the lubricant time-chart to reduce consumption, and improved the lubricant leak-proof structure, filtered out oil harmful to the environment, and improved the scrapping method. We began to apply it to mass-production equipments in May 2009, and it is now applied to all mass-production equipments.

Improvement of the HM6300 Multi-Pallet

As the multi-pallet driving method used to be hydraulic, it took a long time, and noise and vibration occurred. Also, as hydraulic oil was used, environmental pollution was likely.

To improve this situation, Doosan Infracore conducted researches on switching the driving method from the hydraulic driving method to the servo driving method. Accordingly, we could reduce the capacity and flow of the hydraulic unit attached to the machine, and reduce costs and environmental pollution. The detail design of the improved HM6300 Multi-Pallet is completed, and will soon be applied.

Optimization of the HP5500 structure

We conducted researches on optimization of the structure of HP5500 with a view to optimizing the weight of the structure of the horizontal machining center and reduce the consumption of cast iron, the main raw material, and supplementing the performance. As a result of continued R&D activities, we started with the structural review of the equipment lay-out and sizing, and optimized the structure of the base and moving part through analysis to reduce the 'Column weight by.' If it is actually applied to mass-production, it is expected to save about 40 tons of cast iron a year, and improve the dynamic performance. First of all, Doosan Infracore optimized HM6300, and is in the detail design stage. Mass-production of HM6300 will start in the 3rd quarter of 2010, and then it will be applied to HM and all HP series.

Development of the 2-channel serial communication encoder data reception chip

The encoder data reception chip is located in the encoder of the motor and receives other information. The reception chip of the existing turret servo driver of Doosan could only drive one axis. Accordingly, to drive two axes at the same time, 2 reception chips were required, and consequently the costs doubled and twice as many resources were consumed.

As a solution to this problem, Doosan Infracore developed the encoder data reception chip in 2009, and is now testing the application of it to a two-axis sequential turret servo driver. The driver with the 2-channel serial communication encoder data reception chip is scheduled to be mass-produced starting in July 2010.



Development of high-efficiency forklifts

The forklifts BG is continuously introducing technologies for improving energy efficiency with the aim of developing high-efficiency forklifts. Particularly, in 2009, We developed high efficiency charger mounted inside a electric forklift and introduced the variable pump system to accelerate our effort to improve the engine-type forklift fuel efficiency.

Development of a charger mounted inside a electric forklift

Power forklifts are supposed to use an external charging device, but in general, if an external charging device with a Leakage Transformer is used, the charging efficiency will be poor, heat will be generated, and it will be very noisy.

To make up for these shortcomings, if we use a Troidal Transformer to the small transformer and install it inside the vehicle, the charging efficiency of the battery will be improved, and there will be less heat and noise. Also, we will not need extra space for installation of the charger, and we can connect the power cable to the charger for easy charging.

Doosan Infracore's charger mounted inside the electric forklift reduced the consumption of electric power by close to 30%, and we began mass-producing it from July 2009, and it is favorably received in the market.

Introduction of the variable pump system for engine-type forklift

A forklift has a hydraulic device for lifting and lowering heavy cargo, and a large hydraulic pump keeps working endlessly. In Korea where the rental forklift market is prospering, the engine-type forklift is often seen on the road, and as the steering device is only used while it is on the road, the large hydraulic pump adversely affects the fuel efficiency of the forklift. If a variable pump capable of adjusting capacity depending on conditions is used, it will be possible to prevent the loss of unnecessary energy when the forklift is travelling on the road, and more power can be generated during the unloading job. Accordingly, the fuel efficiency of the fork lift can be raised by 14%-24% depending on the model.

We completed the development of a pump and a controller that can effectively adjust the variable pump depending on working conditions, and plan to begin mass-production in 2010.

Completion of engine-type forklift Tier-3 certification

To respond to the EPA Tier-3 and EURO Stage-3 emission regulation that went into effect in 2008, we developed Tier 3-certified vehicles for 1-ton, 2/3-ton, and 11-ton forklifts in 2007, and developed the forklift for 7/9-ton Tier-3 engine-type forklift in 2008 7/9, thereby completing Tier-3 certification for all engine models.

As for the 7/9-ton forklift, we introduced the electronically controlled engine, and used high-pressure injection and adjusted the injection timing to reduce the emissions of particulate matters (PM) and nitrogen oxide (NOx). We also lowered the temperature of the air flowing into the cylinder, and thus additionally reduced NOx emissions. As a result, we reduced the PM and NMHC+NOx emissions to 50% and 19% of the legal standards respectively.

Eco-friendly R&D System

Development of clean engines

To proactively respond to the exhaust regulation in the global market, which will go into effect in 2010, Doosan Infracore has conducted R&D activities consistently, and as a result we have already succeeded in developing the Euro4*, Tier-3**, and US2007*** engines. However, Doosan Infracore did not stop here, but strived to concentrate on developing more advanced technology, and developed upgraded versions, i.e. Euro5, Tier-4, and US2010 engines, and we are making preparations for commercialization.

Development of Euro5 engines

With the Euro5 emission regulation, which will take effect in October 2010, the nitrogen oxide (NOx) standard of the Euro4 regulation, which went into effect in January 2008, is strengthened from 3.5 g/kWh to 2.0 g/kWh. To respond to the Euro5 emission regulation, Doosan Infracore is using the SCR (Selective Catalytic Reduction) method, which we have already successfully applied it to our Euro4 engine, to improve and develop the combustion system and the injection system.

As for Euro5 engines, we fixed the development specifications for three models, i.e. 6-liter, 8-liter and 11-liter, and embarked on the engine and vehicle evaluation test. We have already accomplished various development goals including emission target, and we are accelerating the effort to improve reliability and competitiveness for commercialization. Our goal with regard to the Euro5 engine is to develop a high-output high-fuel-efficiency clean engine that minimizes emission gases, and we expect that we will successfully launch an eco-friendly engine that boasts of quality and market competitiveness.

Doosan Infracore is about to acquire the Euro5 engine certification in July 2010, and we will use the upgrade technology of the SCR system and the OBD development technology to start development of the engine that will comply with the Euro6 emission regulation. Also, we will spare no effort to continuously develop clean engines by applying this technology to respond to the Tier4 final emission regulation.



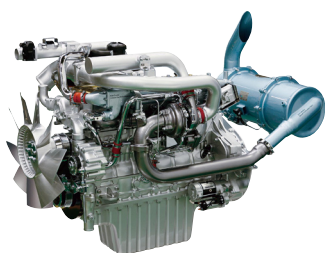
EUR05

¹⁾ Euro x : It is the name of the diesel car exhaust regulation adopted by the European Union (EU). It applies to buses in Korea.

²⁾ Tier-x : It is the EPA standard of the US applied to industrial vehicles (forklifts, etc.). It is also applicable in Korea as well.

³⁾ US 2007: It is an exhaust regulation for NOx and PM like Euro x. It went into effect in the US in 2007.



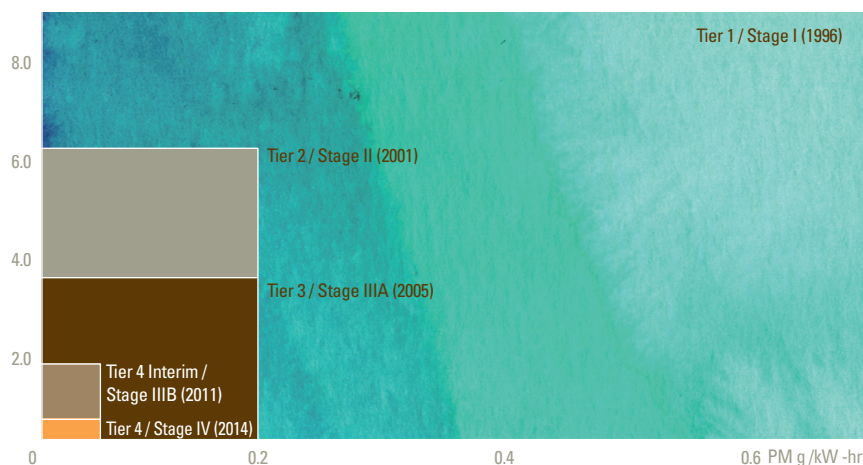


Tier-4

According to the Tier-4 interim emission regulation, which will go into effect in the US market in November 2011, particulate matters (PM) must be 0.02g/kWh, and nitrogen oxide(NOx) must be 2.0 g/kWh. We are required to reduce 80% of the particulate matters and more than 50% of nitrogen oxide as compared to the existing Tier-3 emission regulation. To meet these standards, Doosan Infracore is utilizing the combustion optimization technology and emission gas reduction technology we acquired from the development of the Tier-3 engine, and the new technologies such as External Cooled EGR, VTG(Variable Turbine Geometry), and DPF(Diesel Particulate Filter), and we are in the process of developing the Tier-4 interim engine that improves on the combustion system and the injection system. In 2009 we made the proto engine and worked on the performance and endurance, and currently put the proto engine in the equipment in a bid to improve the performance of the equipment. For the Tier-4 Interim engine we are planning to get it registered for the US EPA and acquire the certification by the first half of 2011, and capitalize on the technology we acquired through the development of the Tier-4 Interim engine to develop the Tier-4 final engine.

10.0 NOx g / kW - hr

130 -560kW Range Vehicle

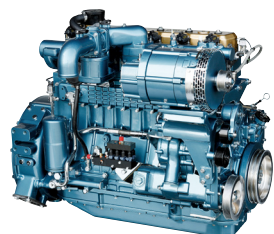


Development of gas engines to cope with US2010

Doosan Infracore is in the process of developing the US2010 gas engine along with the Euro5 and Tier-4 Interim engine. The US2010 engine uses the lean burn technology and the oxidation catalyst and SCR post-processing technology to drastically reduce exhaust gas, and improves fuel efficiency by maximizing combustion efficiency without any performance loss.

As for the US2010 gas engine, being developed for city buses, we developed the proto engine in 2009, and finished evaluation of the engine durability test and vehicle test. In accordance with the US2010 emission regulation, which stipulates 83% less nitrogen oxide than US2007, we have already attained various development goals, including the emission regulation, and we are focusing on improving reliability and competitiveness.

The US2010 gas engine is scheduled to acquire US certification in the first half of 2010, and we are planning to extend its use so that it can be used as the engine for articulated buses and garbage trucks.



US2010

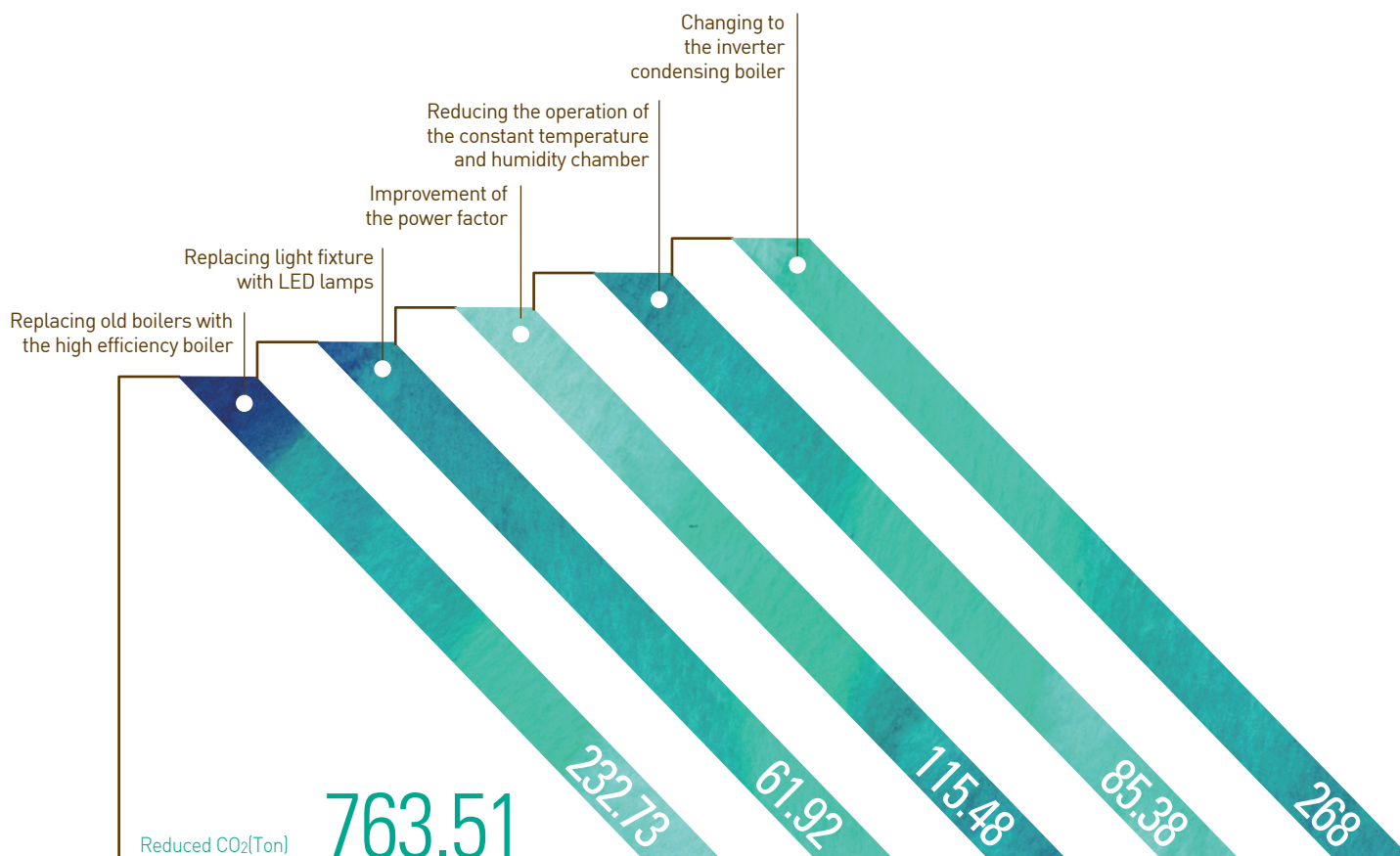
Global leadership Thinking about Our Planet

Thinking about our Planet

Doosan Infracore is a global enterprise doing business across the globe.

We are trying to maintain diverse perspectives to comply with the Climate Change Convention.

We will become a company believing in the sustainable value of the Earth,
and creating nature for tomorrow.



Doosan Infracore made efforts to reduce greenhouse gas emissions in 2009, such as replacement of old facilities with high-energy-efficient facilities in the Incheon and Changwon Plant. As a result, we reduced 763.51 tons* of CO₂ emissions in total, which is equivalent to the amount of CO₂ absorbed by 152,702 pine trees** in a year.

* Power factor: 0.4691ton CO₂/MWh(2009, KTX)

** Pine tree CO₂ absorption: 5Kg/tree per year (2009, Ministry of Environment)



Responding to Climate Change

- Strategies for Responding to Climate Change 34
- Development of Technologies to Respond to Climate Change 36
- Responding to Climate Change and Building the Organizational Culture 37
- Management and Reduction of Greenhouse Gas Emissions 38



The Factory Automation Division has tremendous processing and production capability based on quick speed and sharp insight.

Doosan Infracore learns from nature, and starts in nature.



Strategies for Responding to Climate Change



Department of Business
Administration, Konkuk
University

Prof.
Seong Baek-seo

Vice chairman of
Environmental
Management Association

Responding to climate change requires voluntary movement from the relative viewpoint. Doosan's own climate change strategy will make Doosan Infracore more valuable.

As responding to climate change is actively discussed in all industries, everyone must make relevant efforts, and it can be said that everyone has already reached a certain level in basic aspects. I believe Doosan Infracore also has laid an excellent frame as it has continuously carried out environmental management, and I think it is time to build the competency with regard to performance and future improvements. A true climate change response is not concealing weaknesses, but what's more important is to emphasize weaknesses strategically and disclosing related investments and improvement results, and how much competency you are going to build for the tasks ahead.

To successfully respond to climate change, Doosan Infracore must remember to think in relative terms and make efforts to voluntarily translate plans into reality. When it comes to climate change, different companies will have different approaches, so if Doosan Infracore tries to identify its own issues, compare them to global standards, and attain the global levels, it will add value to Doosan Infracore.

Climate Change as a New Opportunity

In December 2009 an event was held in Copenhagen. It attracted the attention of the whole world. This was the Copenhagen Summit attended by the heads of state to respond to climate change, the biggest issue of the 21st century.

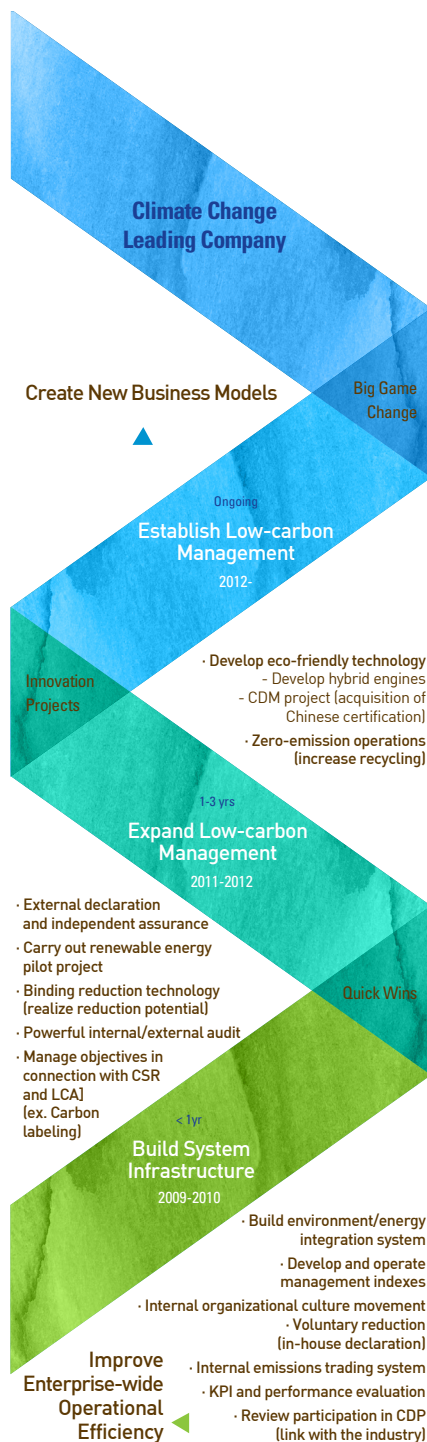
US EPA in 2009 defined CO₂ as a pollutant, and Korea enacted the Framework Act on Low-carbon Green Growth. To respond to climate change, every country is competitively proposing green policies. These moves can be a big threat to global corporations, and the CEO's of global enterprises are also pointing out climate change as the biggest issue in business management of the 21st century.

Until 2012 Korea will not be required to comply with the climate change convention until 2012, but a global player Doosan Infracore is controlling the potential threats posed by the effectuation of the climate change convention by trying to reduce greenhouse gases in all our domestic and overseas operations in accordance with global standards. We are also trying to turn threats into opportunities by developing eco-friendly products in order to proactively lead the changes in the market engendered by the climate change convention.

Responding to Post 2012

From 2010 when the regulation will start to exercise actual influence on Korea, Doosan Infracore is planning to reinforce our internal competency by initiating voluntary activities like internal emissions trading, and to improve our operational efficiency. Also, we will carry out our plans from 2011 to 2013 successively to aggressively respond to anticipated international regulations from 2013, and create new business models based on hybrid and renewable energy.





Building the Climate Change Response System

In 2009 Doosan Infracore built the internal process for managing the greenhouse gas emission inventory, and reshuffled the existing energy management organization into the greenhouse gas/energy management organization to reinforce the greenhouse gas management competency. We also completed the first stage of greenhouse gas inventory building in 2009.

Doosan Infracore established the greenhouse gas reduction goal for 2010 through continuous monitoring and analysis of Government policies, and plans to organize a greenhouse gas/energy response TFT that will actually lead the greenhouse gas reduction initiative. As far as the greenhouse gas emission inventory building project is concerned, we are planning to continuously extend it to include the new plant in Gunsan. Also, as part of the greenhouse gas response infrastructure support, we are going to build the energy measurement system and the greenhouse gas management system step by step.

Participation in CDP 2009

The Government included the disclosure of green management information in the Framework Act on Low-carbon Green Growth, and demands the disclosure of information regarding climate change response. Accordingly, Doosan Infracore has been participating in the CDP (Carbon Disclosure Project) since 2009, and defined the risks and opportunities related to climate change and established the greenhouse gas inventory and disclosed the energy reduction goal and such detailed information as purchasing costs. The submitted CDP information will be put together by the CDP Committee, and published as a report. As various media compare and evaluate participants and non-participants and utilize the information, PR opportunities will be given to participants and pressure will be continuously given to non-participants.

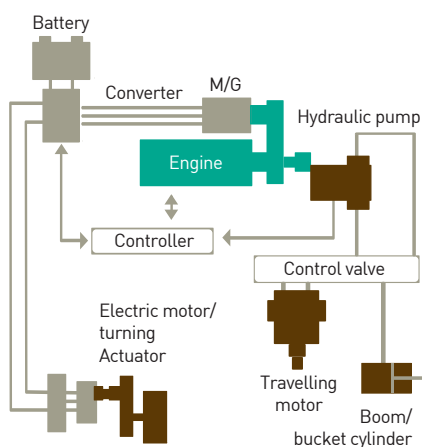
Transparently disclosing Doosan Infracore's response to climate change to stakeholders will externally contribute to securing reputation by showing our strong will to respond to climate change, and internally lay down the foundation for systematic low-carbon management based on evaluation of climate change responses. Doosan Infracore will make efforts to be more actively comply with external stakeholders' request for disclosure of climate change response information and thus play the role of a more transparent and sound corporate citizen.

Development of Technologies to Respond to Climate Change

Development of Equipments Using Alternative Fuel

As a fundamental way to reduce CO₂ emissions, the main culprit of global warming, during the use of products, Doosan Infracore has been conducting researches to develop equipment that uses alternative fuel or can reduce the consumption of fossil fuel. Equipment using alternative fuel is an eco-friendly technology that will not only be able to cope with the volatile oil prices due to the depletion of fossil fuel, but also improve fuel efficiency and reduce exhaust gas emissions. Currently researches on the hybrid excavator and the hybrid power forklift are in the commercialization phase.

Conceptual Map of the Hybrid Excavator



Hybrid excavator

As the hybrid excavator greatly contributes to improving energy efficiency and climate change responses, advanced countries are in a hurry to develop it. Doosan Infracore began to develop the hybrid excavator at the end of 2007, and has already designed and manufactured the motor, the electric power converter and the energy storage device on the basis of working modes, and conducted performance tests. We are trying to improve fuel efficiency on the basis of the vehicle test. We are also seeking ways to improve the durability and reliability to the level of mass-produced vehicles.

Hybrid electric powered forklift

While the existing power forklift uses a low-efficiency battery as the energy storage device, the hybrid forklift uses the instant high-power charge/discharge performance and the high-efficiency ultra-capacitor in addition to increase the energy efficiency of the power forklift. Doosan Infracore began to develop the hybrid power forklift in 2009, and is now verifying the performance of the prototype.

Improving the Fuel Efficiency of Equipments

While developing a futuristic equipment using alternative fuel, Doosan Infracore is concentrating its efforts on improving fuel efficiency to reduce dependency on fossil fuel with the aim of responding to climate change. As a result, we developed a new hydraulic system, improved the efficiency of hydraulic parts, improved cooling performance, and reduced the weight of the front.

Improvement of the fuel efficiency of the excavator and the wheel-loader

We improved the fuel efficiency of new models by developing high-efficiency high-fuel-efficiency engines and using various energy saving technologies. To respond to the new exhaust gas regulation (Tier-4) after 2011, we developed the latest electronic hydraulic system and improved the efficiency of hydraulic parts, thereby improving fuel efficiency. Besides, we developed various working modes fit for the sites to save energy. By improving the fuel efficiency of equipment, we are reducing the consumption of fossil fuel and CO₂ emissions to respond to climate change.

Responding to Climate Change and Building the Organizational Culture

Climate Change Education

Believing that the small things done by all employees of Doosan Infracore can contribute to saving our Earth, we provided all employees including new employees with training on climate change and low-carbon Green Growth. The diverse training programs made them aware of climate change, and made them understand the necessity of responding to climate change. Accordingly, we solidified the foundation for global leadership caring for the Earth.

Internal Organizational Culture Activities

To encourage the employees to form eco-friendly habits, Doosan Infracore embarked on the 'CO₂ reduction green start campaign.' 'Green Start' is a national campaign to reduce greenhouse gases in everyday life for the sake of Low Carbon, Green Korean on the basis of Green Growth. This campaign makes for Green Earth by practicing such small things in everyday life as keeping the room temperature at an optimal level, using public transportation and buying eco-friendly product.

To induce employees to participate more actively in the campaign in response to climate change, in 2010 we are preparing diverse events like the climate change quiz and energy saving idea king.

8 Codes of Conduct for Green Start Campaign

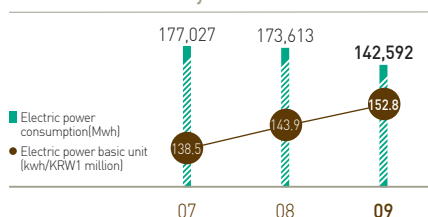
Keep the room temperature at an optimal level <ul style="list-style-type: none"> · If you lower the temperature by 1°C, 231kg of CO₂ will be reduced per household a year. · The room temperature must be 27°C~28°C in summer. · The room temperature must be lower than 20°C in winter. · Wear light in summer and long johns in winter. 	Use less water <ul style="list-style-type: none"> · If you reduce the shower time by 1 minute, you will cut reduce CO₂ by 7kg. · Install a water-saving shower and toilet bowl. · Use water in a cup when you brush your teeth or wash your face. · Wash lots of clothes at once.
Cut down on driving and use public transportation instead <ul style="list-style-type: none"> · Walk or ride a bicycle. · Participate in the no-driving-once-a-week campaign. · Carpool and drive a compact car. 	Buy eco-friendly products <ul style="list-style-type: none"> · Buy products with the eco label. · Buy home appliances with high energy efficiency. · Use recycled products.
Reduce garbage and recycle <ul style="list-style-type: none"> · Reduce the use of disposable products and make it a habit to use a shopping bag. · Separate garbage. · Buy refill products. 	Drive right <ul style="list-style-type: none"> · At every quick start and quick acceleration, KRW40 will be wasted. · Make sure you know the your destination before start. · Maintain an economical speed and do not carry unnecessary cargo.
Use electrical products right to save energy <ul style="list-style-type: none"> · Unplug and you will use electricity free for a month of the year. · Do not fill the refrigerator with food. · Use an electric fan instead of an air-conditioner. · Use high-efficiency lighting and turn off unnecessary lights. · Do not use the elevator to go to low floors. 	Plant and grow trees <ul style="list-style-type: none"> · A pine tree will absorb 5kg of CO₂.

Management and Reduction of Greenhouse Gas Emissions

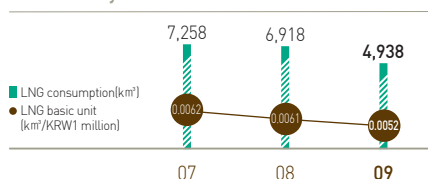
Greenhouse Gas Emissions and Management

All greenhouse gases generated in the product manufacturing process are converted into CO₂ according to the greenhouse gas inventory formula, and managed. Also, we set up a goal for each business group (BG), and made it its KPI to encourage them to reduce greenhouse gases.

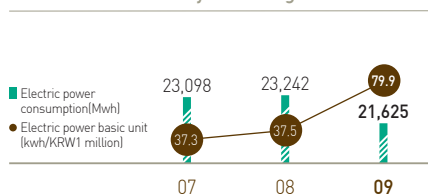
Electric Power Used by the Incheon Plant



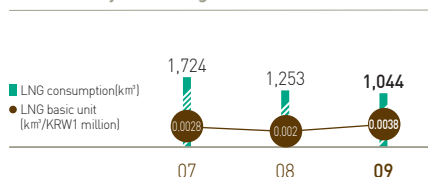
LNG Used by the Incheon Plant



Electric Power Used by the Changwon Plant



LNG Used by the Changwon Plant



Energy Consumption

Doosan Infracore has reduced the use of fossil fuel in our processes, and replaced most energy sources with electricity and LNG. As electricity and LNG account for more than 95% of total energy used, most of the greenhouse gases generated at Doosan Infracore are measured as indirect sources.

Incheon Plant

The Incheon Plant saw its consumption of electric power and LNG go down last year due to reduced operations of the production processes, but the basic unit as compared to production was 152.8kwh/KRW1 million, and efficiency declined slightly. This is because the proportion of basic electric power consumption including the electric power for upkeep increased in relative terms.

The Incheon Plant finished building the greenhouse gas emissions inventory in 2009, and is independently estimating CO₂ emissions of the energy source it used. The energy used by the Incheon Plant last year is equivalent to 72,323 tons of CO₂. The Incheon Plant set up its own reduction goal, is making continued efforts to reduce greenhouse gas emissions, and spares no effort to improve process efficiency.

Changwon Plant

In 2009 the Changwon Plant saw both its electric power consumption and LNG consumption go down, but its basic unit consumption go up. The basic consumption for upkeep of processes looked larger than it should as its days operated decreased due to reduced production. The Changwon plant also finished building its greenhouse gas emission inventory in 2009, and is independently measuring the greenhouse gas emission equivalent of the energy it used. The energy it used in 2009 is equivalent to 11,640 tons of CO₂. The Changwon Plant set up its own reduction goal, is making continued efforts to reduce greenhouse gas emissions, and spares no effort to improve process efficiency.

Energy-saving Initiatives

Using the high-efficiency boiler

The Incheon Plant replaced the old boiler with the high-efficiency boiler. As a result, we reduced the amount of city gas used by 103,070m³, which is equivalent to about KRW69 million in saved fuel costs.

Using the power-saving light fixtures (LED)

We replaced existing low-efficiency light fixtures with high-efficiency power-saving LED lamps. The LED lamps use little electric power, and last long, thereby reducing consumption of resources. With the use of LED lamps, the Incheon Plant could save electric power by about 132MWh, which is equivalent to about KRW10 million.

The Incheon Plant will continue to replace low-efficiency lamps with LED lamps.



Power-saving lighting fixtures

Improvement of the power factor

The reactive power, a kind of loss, must be improved so that the power factor must be greater than 90%. For this purpose we are using a condenser for improving the power factor of the power substation, and reducing reactive power by having operators continuously check them and separate the condenser for improving the power factor when the load drops abruptly.

The Changwon plant improved the power factor and keeps it above 95% on average annually, and improved the electric power by 250MWh, saving KRW25 million annually.

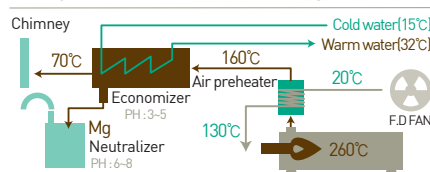
Reducing the electric power used by the constant temperature and humidity chamber

The Changwon Plant reduced the operation of the constant temperature and humidity chamber to the extent that it would not pose any serious problem to the equipments during the period of reduced operations in 2009, thereby reducing the fixed amount of energy used. When the electric power consumed by equipments, operating hours, and the equipment operating efficiency are taken into consideration, we saved energy consumption by about 180,236kWh.

Using the inverter condensing boiler

The Changwon Plant replaced two old boilers with inverter condensing boilers. The inverter and the high-efficiency motor are super-power-saving and can reduce electric power by up to 50%. As we kept the operating efficiency at 99% by replacing the boilers, we are expected to reduce about 268 CO₂ tons of greenhouse gas emissions annually.

Principles of the Inverter Condensing Boiler

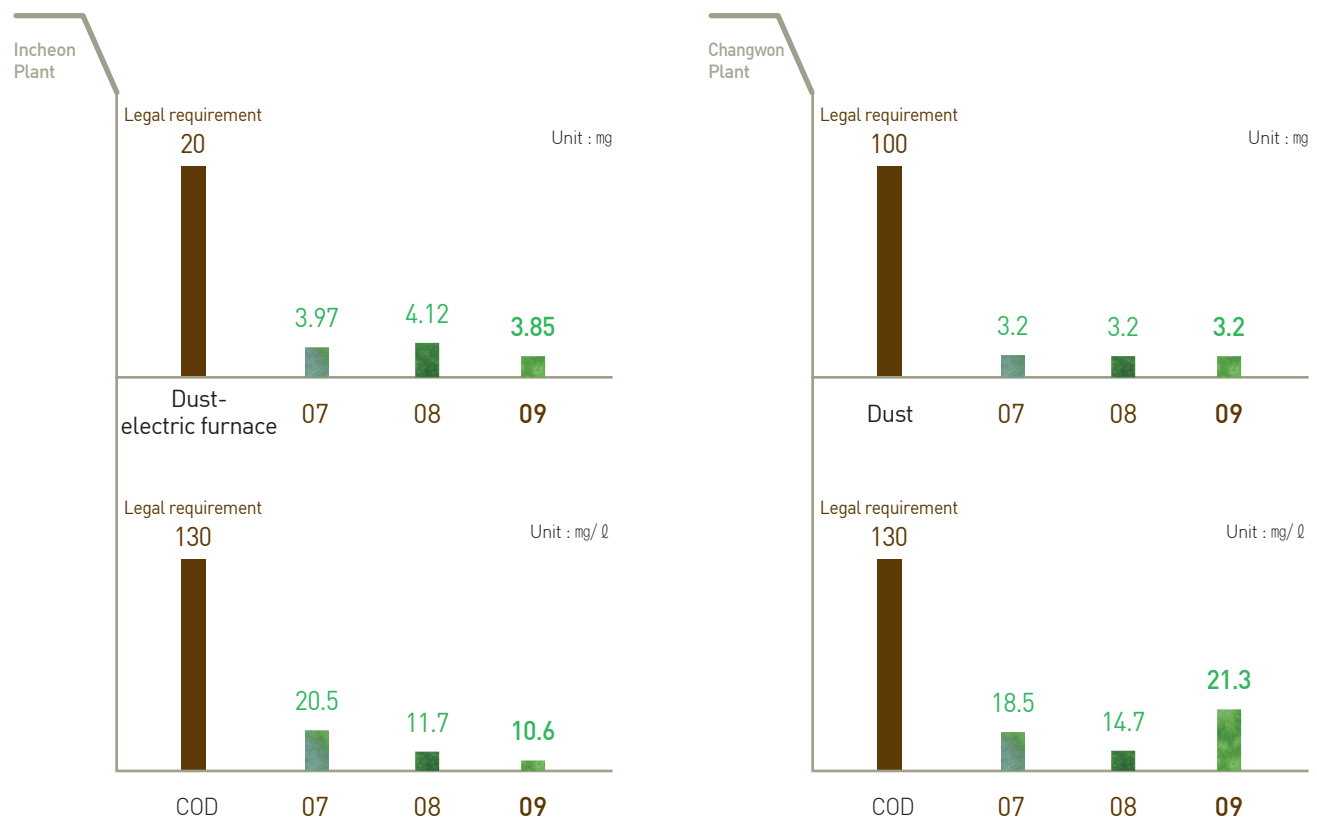


Clean Production Considering the Environment Growing with Nature

Growing with Nature

Doosan Infracore never forgets to meet the needs of future generations while seeking growth of the present.

To bequeath a comfortable and available nature to our future generations, we are making diverse efforts in our production processes and everywhere in our operations.



The air pollutants emitted by production processes include the dust and THC generated electric furnaces and other processes. We set up 50% or less of the legal requirement as our internal standard, and



Building the Clean Production System

Use of Resources and Water	42
Management of Pollutants	43
Management of Harmful Substances	45
Eco-friendly Transportation and Packaging	46
Responding to Global Environmental Regulations	47
Waste Management	48
Soil Management and Responding to Civil Complaints	49

Our forklift is a tireless and powerful,
and diligent and efficient worker.

Doosan Infracore learns from nature, and
starts in nature.



Use of Resources and Water



Junior Analyst of Shinhan
Investment Corporation

Lee Jonghwan

Doosan Infracore's endless efforts, taking internal aspects too, will make the company a world-class sustainable enterprise in the global market that will satisfy consumers.

In recent years green growth is the most-talked-about topic in heavy industries. As they may be seen as pollution makers, they need to make endless efforts to become environmental enterprises in provision for unexpected incidents caused by environmental issues. They need to optimize energy use by using eco-friendly energy, efficiently using raw materials, and minimizing emissions of pollutants. Along with environmental management clean production is the most fundamental activity required for growth, and the essential activity for improving their eco-friendly image.

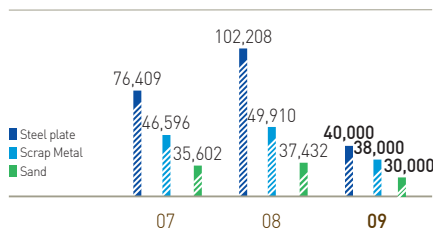
As sustainability management is a global trend, it is now recognized as the essential element of corporate survival, and the carbon emission right is regarded as an intangible value of enterprises. It is reflected in the measurement of corporate values. In step with this trend, Doosan Infracore's endless efforts, taking internal aspects too, will transform the company into a world-class sustainable corporation.

Use of Resources

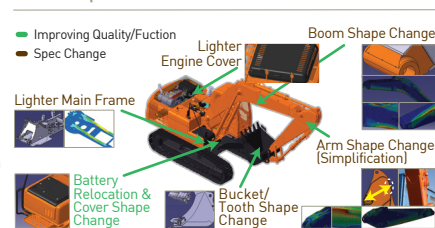
At the Incheon plant producing construction equipments, engines and forklifts, steel plates, scrap metal and sand are used.

Doosan Infracore makes continued efforts to reduce the weight of products and improve yield from the design, and thus reduces the use of steel plates per unit product. Accordingly, we could reduce the weight of the front and frame by more than 6%, thereby improving the performance and fuel efficiency of equipments, and saving the fuel cost of customers and reducing the cost of waste disposal. Also, we reduced defects and thus the amount of sand used, and we are recycling all used sand.

Resources Used (Incheon Plant)



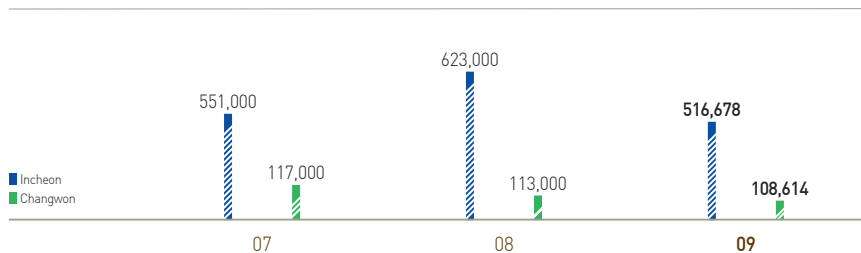
An Example of Steel Plate Yield Reduction



Water Use

In 2009 the amount of water used was similar to that of the previous year, but has since declined due to reduced operations. However, we are trying to optimize the amount of water used in all processes by proposing various recycling methods and minimizing water leaks.

Water Used (m3)



Water Reuse

Since last year the Incheon Plant has been using part of the treated water for cleaning roads and watering the plants within the premises to improve water efficiency. During the 160 days when the waste water could be used for watering plants about 5 tons of water was recycled a day.

Management of Pollutants

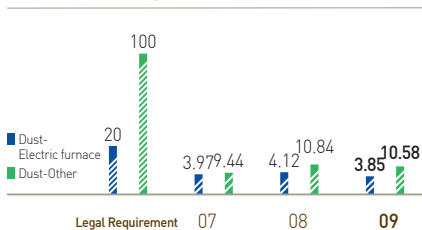
Doosan Infracore set up internal emission standards below 50% of the legal requirements for all our domestic and overseas operations, and we are strictly complying with them. In 2009 no legal or administrative action was taken against any of the plants, included in the report. In particular, the Changwon Plant had no environmental accident or civil complaint in 2009. Also, we are trying to reduce pollutants and improve process efficiency by means of regular inspections and employees' improvement ideas.

Management of Air Pollutants

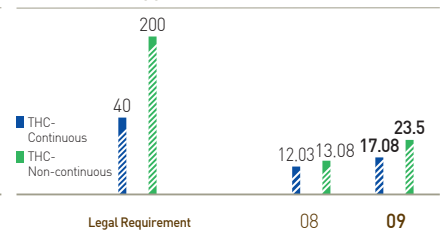
Incheon Plant

The air pollutants emitted by production processes include the dust and THC generated at the electric furnace and other processes, and the in-house standards for all facilities are below 50% of the legal requirements, and pollutants are emitted below this level.

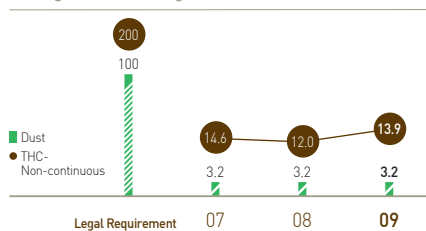
Incheon Plant (mg/Sm³)



Incheon Plant (ppm)



Changwon Plant (mg/Sm³)



Changwon Plant

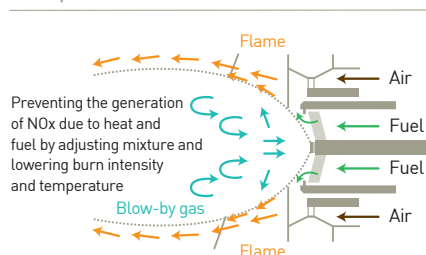
At the Changwon Plant the painting process emits air pollutants, such as dust, THC and odor. The emitted air pollutants go through the preventive facilities and are emitted into the air through a total of 23 outlets. To minimize the emission of THC and dust into the air, we installed and operate the best preventive facilities.

Cases of Reduction of Air Pollutants

Installation of a low-NOx burner to reduce NOx

A certain amount of nitrogen oxide emissions will be assigned to the Incheon Plant in accordance with the Special Act on the Metropolitan Area starting in 2010. Before the enforcement of the regulation, we replaced the boiler burner with a low-NOx burner to reduce nitrogen oxide. We replaced a total of three boilers until 2009, and we are planning to replace all boilers with low-NOx burners by 2010. If they are replaced with low-NOx burners, the concentration of nitrogen oxide emissions will be reduced from 100ppm to 60ppm, thereby reducing costs by 40%.

Principle of the Low-NOx Burner



Improving the painting facility to reduce THC

To reduce THC, we tore down old painting facilities and installed new painting and preventive facilities, and for some painting processes the powder painting method, which is spotlighted as an eco-friendly painting process, is applied. By so doing we reduced THC from 40ppm to 10ppm.

Management of Pollutants

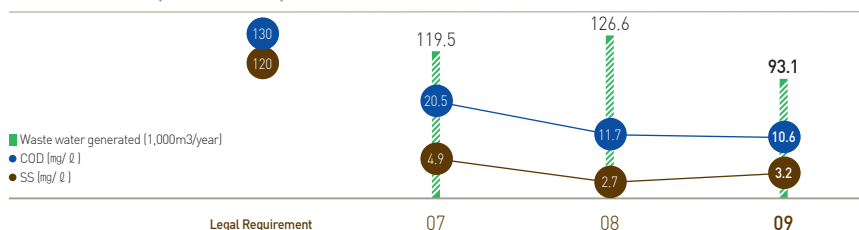


Management of Water Pollutants

Incheon Plant

Waste water goes through physical, chemical and biological treatment process and is purified at the waste water treatment plant within the premises of the plant, and discharged into the nearby sea, and sewage flows into the sewage treatment plant. The Incheon Plant automated the processes before waste water treatment and installed the denitrification process (A/O) to keep pollutants below 20% of the legal requirement. We also implemented the monitoring system to prevent environmental accidents.

Water Pollutants (Incheon Plant)



Changwon Plant

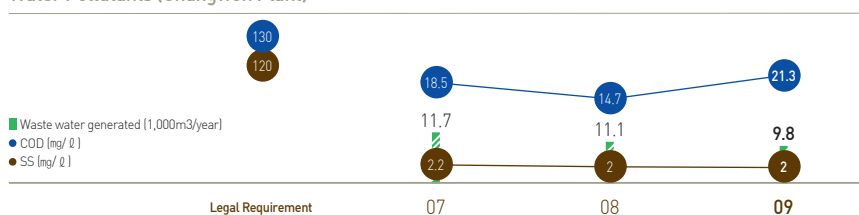
All waste water goes through physical and chemical treatment processes at the waste water treatment plant, and is purified. Then, it goes to the sewage treatment plant through the municipal sewage pipes before discharge.

We keep the quality of the effluent below 20% of the legal requirement, and we are monitoring the sources of waste water to prevent environmental accidents.

As the days operated the Changwon Plant decreased due to reduced production in 2009, the waste water discharge cycle of its waste water discharge facilities increased, and the COD of the effluent rose from 2008 14.7mg/l in 2008 to 21.3mg/l in 2009. However, this increase is due to the concentration effect of the longer waste water discharge cycle, and the amount of increase is merely 16% of the legal requirement, and all of it flowed into the sewage treatment plant and was re-treated.

The production volume of the Changwon Plant is expected to increase in 2010, and we will keep the discharge concentration of each waste water discharge source below 50% of the legal requirement, determine appropriate discharge cycles, and manage the discharge concentration of each discharge source to control the concentration of discharged pollutants.

Water Pollutants (Changwon Plant)



Management of Harmful Substances

Doosan Infracore is not using representative ozone depletion materials, such as CFC, HCFC, halon, CH₃Br and R-22, in any of our manufacturing processes. However, we are monitoring substances harmful to humans, such as asbestos, introduced prevention facilities, and conduct environmental impact assessment of waste reagents in an effort to ensure a comfortable and safe working environment.

Removing Asbestos

To eliminate problems caused by asbestos, a carcinogen, Doosan Infracore is removing all structures including asbestos in the entire plant and office buildings. As the removal is a big task costing a total of KRW17 billion, it will be done in three phases from 2009 to 2011, and to prevent potential problems during the tear-down of the structures containing asbestos, we have a professional supervising firm supervise the work for the sake of thorough management throughout the removal process.

In 2009 we replaced the roofs of 6 buildings, including the construction equipment assembly plant and the small and medium-sized engine processing plant, in phase 1, and in the first half of 2010 we are planning to work on 5 buildings, including the construction equipment steel fabrication plant #2 (North), in phase 2. We are going to remove all asbestos in other local plants by the second half of 2010.



Tearing down structures containing asbestos

Eco-friendly Transportation and Packaging



Wheel-cleaning facilities the Incheon Plant

Installation of Wheel-cleaning Facilities

Doosan Infracore's EHS management is multi-angled in that it considers the environmental impacts of transporting materials related to products and plant operations. As most final products are delivered to customers in separate vehicles in all transportation processes related to Doosan Infracore's management activities, there is no periodical or accumulated impact. On the other hand, at construction sites where many vehicles travel on unpaved roads, or during transportation of waste, there is a high risk of fugitive dust or the movement of pollutants are highly likely to adversely affect the environment periodically. To reduce this risk, we are operating wheel-cleaning facilities. The wheel-cleaning facilities were first installed at the construction site of the Incheon Plant and trucks carrying waste, and they reduce fugitive dust by about 40%. All the waste water generated after wheel washing is treated at the waste water treatment plant to prevent pollutants from being discharged outside.

Last year we washed the wheels of about 20 vehicles a day on average, and to keep roads clean, we are considering installing more wheel-cleaning and expanding the scope of application.

Using Steel for Parts Packaging

To reduce the environmental load of packaging, the Incheon Plant began to replace the package for the products exported to DIEU from wood and vinyl to steel and resilient materials that are recyclable whose resources are highly recyclable when they are scrapped. As wood is scrapped after use in EU, we are using steel instead of wood to enable recycling, and we are considering a process of retrieving and recycling the steel palettes used when exporting parts.

Installing Sealed Double Covers

To safely transport the waste foundry sand, which accounts for more than 80% of the waste generated in the Incheon Plant, we made it mandatory to use a sealed double cover.



After the automatic cover - double cover



Photograph of the backside of the double cover

Responding to Global Environmental Regulations

The environmental regulations, which are reinforced in recent years, are emerging as trade barriers that weaken corporate competitiveness by increasing costs or delaying entry into a market.

Doosan Infracore is actively responding to these regulations by developing core technology and reinforcing green partnership, and has been independently monitoring harmful chemical regulations like RoHS, WEEE and EuP since 2006.

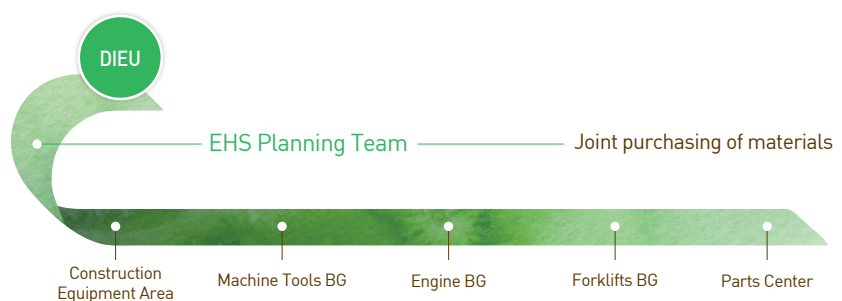
Responding to REACH

To comply with REACH (Registration, Evaluation, Authorization and restriction of Chemicals), Doosan Infracore prepared a substance inventory (list of substances and parts) for the representative model in each business divisions, and is building the database (DB) of chemicals contained in each equipment. Since 2009 we are taking advantage of the preregistered substances to analyze substances to be registered in provision for the registration deadline falling on November 30, 2010. We are also preparing to respond to the Globally Harmonized System (GHS) of Classification and Labeling of chemicals.

To understand and comply with the nature and contents of regulations that are continuously added and modified, Doosan Infracore formed an enterprise-wide REACH compliance organization and provided REACH education for internal persons in charge and representatives of suppliers on three occasions. Various seminars and education opportunities enable participants to quickly and correctly understand related regulations and share what they learn with related departments, laying down the foundation not only for complying with regulations, but also for proactively responding to them.

We are planning to come up with measures to fulfill the registration and reporting obligations as a finished product manufacturer. To respond to the global regulations for controlling chemical substances, we aim to build a chemical substance management system for more systematic control of chemical substances. The chemical substance management system includes parts suppliers, and we are planning to start with management of chemical substances in the supplied products, and expand the system to include eco-friendly management of supply networks by reviewing the environmental impacts of supplied parts (whether they contain harmful chemical substances, whether they apply eco-friendly technology, and whether they comply with various regulations).

REACH Compliance Organization Chart



Waste Management

Current Status of Waste Generation and Reduction Activities

To reduce waste by reducing waste of resources in the manufacturing process, and to recycle the generate waste more, we established the waste reduction goal. We analyze components regularly to make sure generated waste can be properly treated, and conduct a due diligence on waste disposal service providers on an annual basis to ensure that waste is disposed of legally in accordance with relevant laws and regulations.

Waste(Incheon)	07	08	09
General waste (Ton)	50,530	53,540	38,621
Specified waste (Ton)	2,099	2,763	2,239
Total waste (Ton)	53,025	56,303	40,860
Quantity recycled (Ton)	50,193	52,776	38,030
% recycled	94.6	93.7	93.1
Waste basic unit (Kg/KRW100 million)	562	556	438

Incheon Plant

Waste generated at the Incheon Plant includes specified waste, such as waste oil, waste paint, waste acid and sulphuric acid, and general waste, such as waste synthetic resins and waste foundry sand, and domestic waste. The generated waste is buried, incinerated and recycled by a licensed disposal service provider. The total waste generated at the Incheon Plant is 40,900 tons, and more than 93% of it is recycled.

Recycling of waste foundry sand

More than 80% of the waste generated at the Incheon Plant is waste foundry sand. The waste foundry sand is the sand by product generated in the process of making engine castings. In the past all of it was disposed of at the metropolitan landfill, but since 1998 the waste foundry sand has been recycled as a raw material for cement, thereby increasing the efficiency of resources.

Waste(Changwon)	07	08	09
General waste (Ton)	677	715	464
Specified waste (Ton)	370	366	296
Total waste (Ton)	1,047	1,081	761
Quantity recycled (Ton)	498	533	306
% recycled	47.5	49.3	40.3
Waste basic unit (Kg/KRW100 million)	169	175	281

Changwon Plant

The waste generated at the Changwon Plant includes specified waste, such as waste oil and waste paint, and general waste, such as waste synthetic resins and dust and domestic waste. The generated waste is buried, incinerated and recycled by a licensed disposal service provider. The total waste generated at the Changwon Plant is 761 tons, and 40% of it is recycled.

Separate collection of waste in offices

To revitalize separate collection of waste, Doosan Infracore installed recycling bins in all offices and outside of plants in Korea. On the shop floors separate collection is done very well, but not quite well in offices and outside of plants. Accordingly, to prevent the doubling of the cost of separate collection, offices are supposed to separate and dispose of waste when it is generated, and uniform-looking recycling bins are installed outside of plants so that general waste and recyclable waste can be separated.

Soil Management and Responding to Civil Complaints

Management of Soil Contamination

Soil contaminating facilities of Doosan Infracore include the oil storage facilities of the Incheon Plant, and the Changwon Plant installed oil storage facilities on the ground and use separate containers to reduce soil contamination. For existing oil storage facilities we are reinforcing monitoring activities through visual management to prevent soil contamination. Furthermore, to detect oil leaks from oil storage facilities at an early stage, we have been taking underground tanks and pipelines above ground, and completed the construction works for 25 out of the 28 oil storage facilities, and to check whether soil contaminating facilities have any leaks, we are periodically conducting soil contamination inspections in accordance with the Soil Environment Conservation Act.

Results of Soil Contamination Inspections

Result of Soil Contamination Inspections		07	08	09
Oil storage facilities	TPH	< 10	< 10	The period of the inspections was lengthened due to the amendment of the Soil Environment Conservation Act, so no inspection was carried out.
	BTEX	< 5	< 5	
Site boundary	TPH	< 10	< 10	
	BTEX	< 5	< 5	

※ Legally required TPH: 2,000, BTEX : 800 / Unit: mg/kg

Environmental Impact Assessment

The environmental impact assessment has been done according to legal standards, but due to the amendment of the law Doosan Infracore's plants are no longer subjected to environmental impact assessment. As it became unnecessary to conduct environmental impact assessment of waste reagents, we conducted environmental impact assessment independently. We will continue to conduct environmental impact assessment for activities highly likely to affect surrounding environment, such as construction of plants, to reduce environmental load.



Installation of the sound-proof wall(Before)



Installation of the sound-proof wall(After)

Responding to Civil Complaints

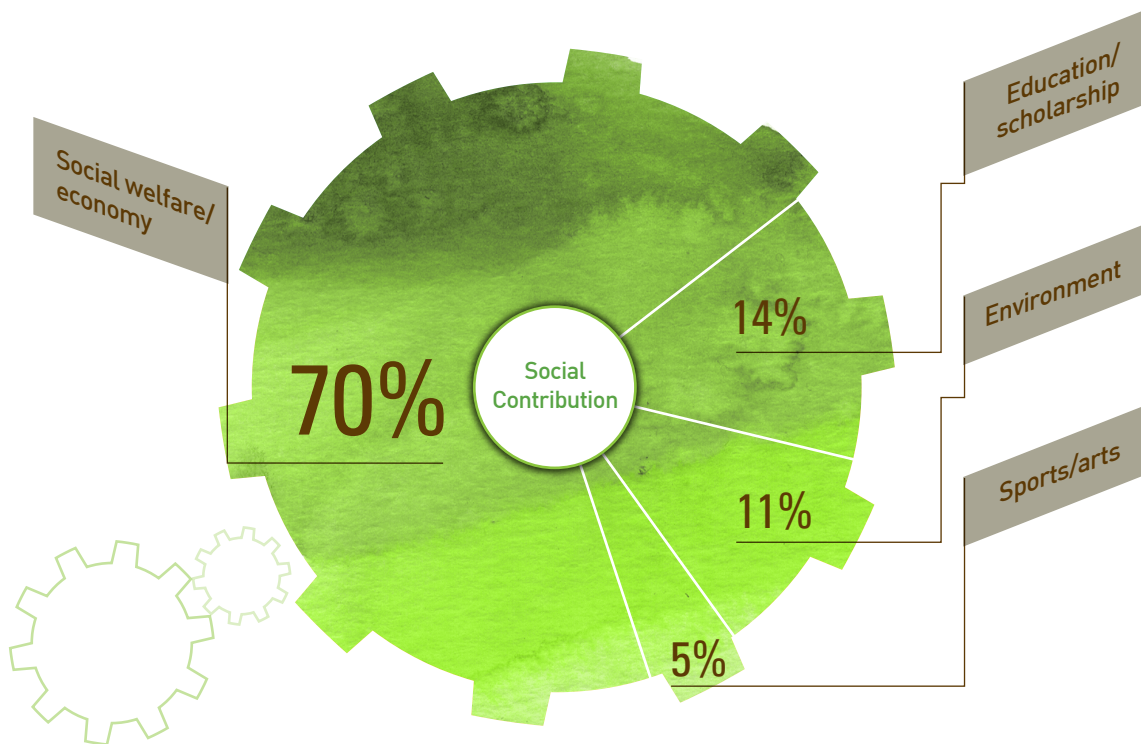
To prevent noise during night work, the Incheon Plant installed additional soundproof facilities in 2009. As a result there has been any civil complaint related to noise and vibration, but we received a civil complaint about the foul odor from the foundry. Accordingly, we joined hands with related agencies to conduct an inspection. The result of the inspection discovered no problem with our facilities and operations, but we are continuously cleaning inside and outside of the plant, and improving our facilities.

Partnership Sharing Happiness

Sharing Happiness

As a corporate citizen Doosan Infracore is trying to form a stronger consensus with stakeholders.

The tomorrow of Doosan Infracore will be greener and healthier as we are always there for our customers.



The social contribution activities of Doosan Infracore are largely divided into domestic and global activities. To play our role as a corporate citizen, we are providing support in various areas, such as social welfare, sports/arts, environment and education/scholarship. In particular, through continued social contribution activities focused on support for infrastructure building, we are trying to form a stronger consensus with stakeholders and thus create a brighter and healthier tomorrow.

Power Comes
from Nature



Doosan
Infracore



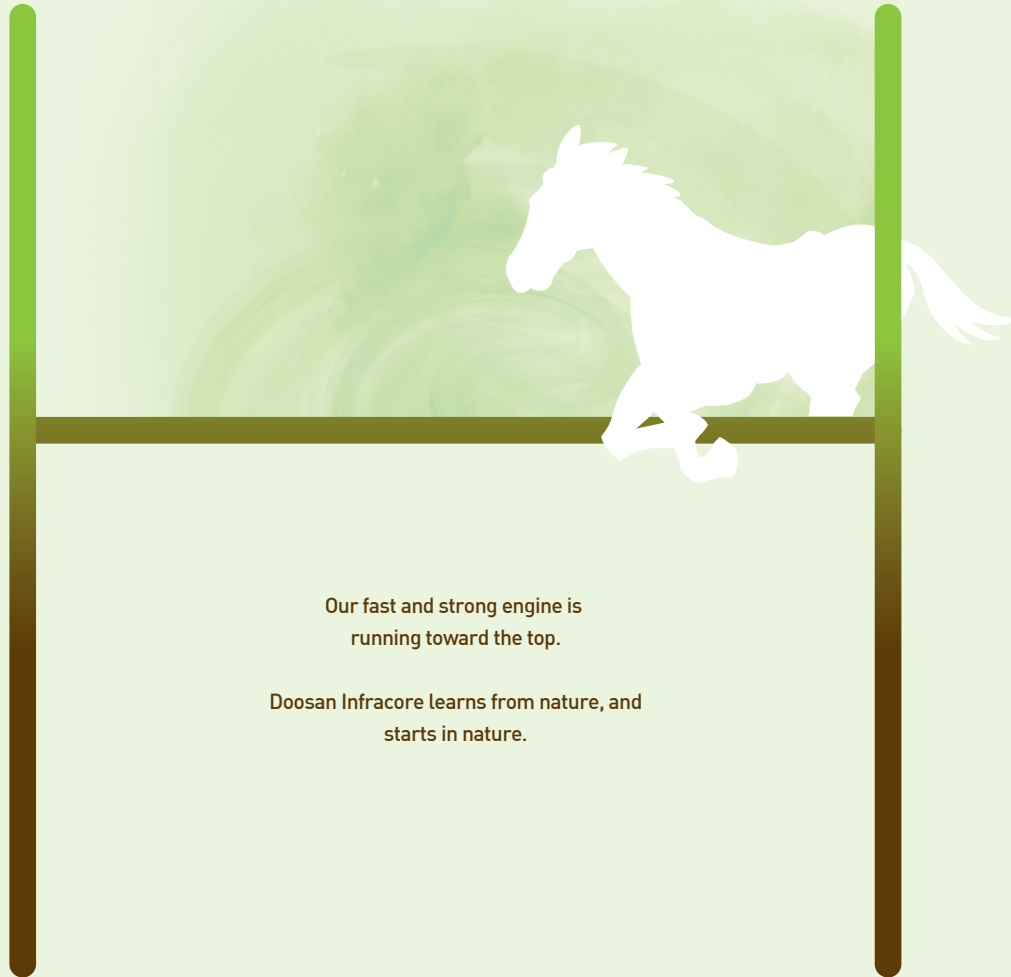
Reinforcement of Social Communication

Reinforcement of Social Communication 52

Preserving the Environment
of Local Communities 53

Social Contribution Activities 54

Safety and Health Management 56



Our fast and strong engine is
running toward the top.

Doosan Infracore learns from nature, and
starts in nature.

Reinforcement of Social Communication



Assistant administrator
of the residents'
association

Yoon Seok-il

To live in harmony with local communities, Doosan Infracore needs to widely publicize and share its environmental management activities.

The area around Doosan Infracore is now clean beyond recognition over the past 10 years as plant facilities affecting local residents, such as the painting process, were relocated or prevention facilities were reinforced. Although there is no noise, Doosan Infracore will need to make continued efforts to maintain and improve prevention facilities, and I hope that the company will invite local residents and provide them with an opportunity to visit the plants and thus publicize Doosan's environmental management more widely.

Also, it is important that the company should engage in activities for symbiosis along with efforts not to cause damage to local residents. Doosan Infracore donated a great deal of articles to local events like the webfoot festival, which greatly helped local activities and greatly improved its corporate image. Currently we are planning to improve the road to publicize Manseok-dong, and as this road runs right next to Doosan Infracore, I hope that we can discuss it and Doosan Infracore will take part in this local project and thus transform itself into a company existing in harmony with the local community.

Building Channels for Communicating with Stakeholders

Each year Doosan Infracore publishes the environmental report which contains our environmental management activities and social contribution activities, and we are trying to form a consensus with our stakeholders through our website and webzine. In particular, we have various programs to form a win-win relationship with local residents, suppliers and employees.

Supporting Local Small and Medium-sized Businesses

Doosan Infracore is helping small and medium-sized businesses by providing them with environmental technologies and information. For instance, we provide small and medium-sized businesses, which have poor environmental technologies, with environmental technology and legal advice, and provide them with technical support and help them reinforce their environmental pollution prevention technologies by conducting preliminary inspections for them.



Fair Trade Compliance Program

Doosan Infracore was the first in the industry to introduce the fair trade compliance program (CP), and laid the foundation for a co-prosperity between the parent company and suppliers. In July 2009 we held the 'Supplier CP Introduction Proclamation' ceremony with the officials of related organizations and employees of 10 suppliers in attendance. We are providing them with financial assistance and education on related laws and regulations, and consulting. fair trade We are planning to introduce the compliance program to 50 companies by 2011, and we expect to build a stable parts supply system through fair trade with primary and secondary suppliers, and get our suppliers to become competitive in the global market. Doosan Infracore believes that win-win cooperation between large and medium-sized corporations and reinforcement of competitiveness are essential to survival in the cut-throat global competition, and the fair trade compliance program will lay the foundation for realizing a transparent management and win-win cooperation between the parent company and suppliers.

* Fair trade compliance program(CP): It refers to an enterprise-wide compliance program enforced by corporations to voluntarily comply with fair trade laws and regulations. If this program is introduced, each corporation will understand what they should do with regard to the fair trade laws and regulations, and prevent violations thereof.

Preserving the Environment of Local Communities

Eco Friendly Factory

Doosan Infracore has been engaged in the Eco Friendly Factory (referred to as EFF hereinafter) since 2008 in an effort to create eco-friendly plants. The EFF project was initiated with the aim of removing the previous eco-unfriendly image of factories and making the area comfortable and full of life. We join forces with the City of Incheon, and the District Office of Dong-gu to carry out this three-year project under three themes: improvement of the images of buildings, afforestation of workplaces, and reduction of pollutants.

As of the end of 2009, as a result of this project, the outer walls of the factories and office buildings were replaced and painted in eco-friendly colors, and landscaping work was done on the rooftop of the main building to create a rooftop garden. Murals were painted on the walls along Jungbong-ro. This project is contributing to making the area a lively place.

The rooftop garden on top of the main building received the first prize in the private sector (green rooftop category) at the 6th Incheon Landscaping Award Ceremony. This award is given by the Incheon Metropolitan City to outstanding landscaping works done by businesses and schools in the City of Incheon.



EFF outer wall
(before construction)



EFF outer wall
(after construction)



EFF outer wall
(before construction)



EFF outer wall
(after construction)



EFF fence
(before construction)



EFF fence
(after construction)



EFF roof
(before construction)



EFF roof
(after construction)



Environmental cleaning at
the Incheon Plant



Environmental cleaning at
the Changwon Plant

Environmental Cleaning

As part of the local community contribution activities, we are improving the environment of the Incheon and Changwon plant. At the Incheon plant those working in the management support department and the EHS department are cleaning the Manseok pier and the Hwasu pier near the plant once a month, whereas the Changwon Plant engages in the quarterly 1-company 1-river cleaning activities, and cleans Mt. Bulmosan on the Environment Day each year.

Social Contribution Activities

Social Contribution Activities of Doosan Infracore

Doosan Infracore's social contribution activities are largely divided into domestic activities and global activities. To perform our role as a corporate citizen, we provide support for various areas including social welfare, sports, arts, education and scholarship. In particular, we are trying to make a brighter and healthier tomorrow by continuously engaging in social contribution activities with focus on infrastructure building.

Doosan Infracore won recognition for our best social corporate responsibility at home and abroad, and received a number of awards and citations. In 2010 we are planning to organize a voluntary service corps to engage in and manage social contribution activities more effectively. We will find out where we could use more improvement and provide our employees with opportunities to make social contributions in a more diverse ways.

Social Contribution Activities of Domestic Operations

Distinctive social contribution activities are continuously performed in Korea with focus on sisterhood relationship with local communities in consideration of the strengths of different organizations and local characteristics.

We provided cleaning service in local communities, e.g. the 1-company 1-river cleaning initiative. We visited the Yongdure Village, a 1-company 1-village sister village, and provided a helping hand, and opened a marketplace for local products to help farmers.

The Gunsan Plant, established in 2009, organized its own volunteer corps and performed various activities linked to local communities every week, such as providing a helping hand with farming, and giving out free meals. Reflecting the characteristics of its work, the Central R&D Center had its researchers open a junior engineering class for the students of a nearby elementary school, and delivered scientific knowledge through experiments to the children.

As a result of our diverse social contribution activities, Doosan Infracore was named the 1-company 1-village social contribution company by Korean Standards Association and I-Love-Farm Campaign Headquarters in August 2009, and received a plaque of appreciation in recognition of our love of farm villages at the 3rd Urban and Rural Exchange of Love Award Ceremony.

Social Contribution Activities of Overseas Operations

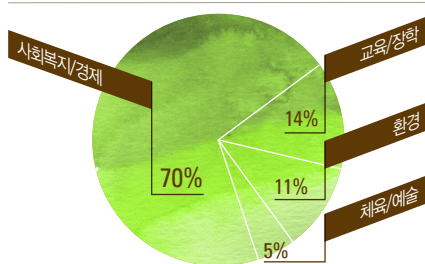
As for our global activities, we send equipments or manpower necessary for recovery from natural disasters across the globe, provide support for disaster victims, and build the infrastructure, such as schools, so that they can prepare for the future. This is called cyclic social contribution activities.

Since its foundation the Chinese affiliate of Doosan Infracore has been actively providing public services in various areas, such as education, culture, environment and charities in accordance with its management philosophy of 'rationally pursuing interests, giving back to society and working together to build a beautiful China.'

Since the earthquake in the Sichuan Province of China in 2008 it has been regularly donating clothes and money for their living expenses to those children living away from their homes. It began to participate in the 'Elementary School of Hope Project' in 2001, and has so far built or is in the process of building a total of 27 elementary schools. In October 2009 it participated in the 'Heart-winning Project' initiated by the Chinese Vocational Society, and established Doosan Training Center in Changsha City, Hunan Province. The Training Center provides farmers and jobless people with vocation education and training in such areas as mechanical working, assembly and repairing, thereby contributing to the fostering of high-caliber technical manpower and the growth of the local economy.

In 2009 the Chinese affiliate won a plaque of appreciation for its contributions to the education business and economic development of China at the Foreign Corporation Public-interest Activities Award Ceremony' held by the Ministry of Commerce of the People's Republic of China. At the national harmony commendation ceremony 2008 it was named a socially responsible corporation. Also, DICC was named the Most Loyal Company and the Best Civic Corporation in Shandong Province.

Social Contribution Activities by Area in 2009



No of participants	631 persons
Hours of participation	1224 hours
Funds raised	KRW560 million
Goods support	Establishment of elementary schools, donation of equipments and daily necessities like underwear, rice and briquettes



Key Social Contribution Activities in 2009

Doosan established elementary schools

To give their profits back to society, the Chinese affiliates, DICC and DISD, has been participating in the 'Elementary School of Hope Project' in backward areas since 2001. In September 2009 they build elementary schools in Hunan Province and Anhui Province in China, and donated related supplies and sports supplies, and have donated RMB7.45 million to the "Chinese Youth Development Fund" until 2009.

Conservation of nature

As part of our contributions to local communities, we are cleaning the environment at the Incheon and Changwon plant. Also, we cleaned the environment at the Banwoncheon River in Ansan, and the Eunpa Amusement Park in Gunsan, and DISD planted 624 trees in wasteland at a tree-planting ceremony.

Support for local festivals

Local festivals are an opportunity to widely publicize the distinct features of local communities, and a good place for enhancing communion with local residents in a festive mood. Therefore, Doosan Infracore is supporting the local festivals of Incheon, i.e. the Incheon webfoot octopus festival, and the Hwadojin festival, and supported Global Fair & Festival 2009 held in Songdo, Incheon, Korea.

Support for recovery from natural disasters

Bobcat and DIPP provided equipments for recovery to help Italy recover from the earthquake in April. We also provided equipments to the site of flooding in North Dakota, US, and our employees volunteered their service to help victims of unexpected natural disasters.



Safety and Health Management



12 practical tasks of PSM (process safety management)

1	Periodical supplementation and systematic management of process safety data
2	Building and post-management of process hazard analysis
3	Supplementation of and compliance with the safe operating procedure
4	Efficient management according to risk classes of facilities
5	Compliance with the work permit procedure
6	Reflection of safety management levels in selecting suppliers
7	Practical PSN training for workers (employees)
8	Safety inspection of harmful and dangerous facilities before operation (trial run)
9	Compliance with the change management procedure when equipments are changed
10	Objective self-testing and post-measurements
11	Accurate identification of causes of accidents and prevention or recurrence
12	Creation of an emergency scenario and periodical training



AS EHS kick off

Safety and Health Management System

To reinvigorate voluntary safety and health activities and effectively perform various safety and health management activities, Doosan Infracore acquired the OHSAS/KOSHA 18001 certification, the domestic and overseas safety health management system certification standards, in 2005.

By continuously enforcing the system we have promoted the health of all employees, continuously managed risks, and protected employees from disasters, and enhanced the employees' awareness and improved the labor-management relationship to increase the ability to predict and respond to laws and regulations.

Process Safety Management System

As complicated large-capacity production facilities have been developed due to the advances in technology, the risk of severe industrial accidents due to hazardous materials fire, their explosion and leaks is also increasing. Doosan Infracore introduced the process safety management (PSM) system in 1996, and has since inspected the hazardous facilities in the painting factory and the dry oven with high risks of severe industrial accidents, and provided safety and emergency training for workers. The PSM of Doosan Infracore operates a preventive system in consideration of damages to local residents and environment, and consequently we won grade P*, the highest grade, awarded by the Ministry of Labor, and we are exempted from PSM inspection until 2010.

* Grade P: The status of process safety management is excellent. The operation with this grade will prepare the PSM report autonomously for 3 years.

Service EHS Kick-off

To build a workplace atmosphere fit for an advanced enterprise, Doosan Infracore introduced a systematic environment, safety and health management program for the service staff in August 2009. This program was initiated by the result of the investigation performed in January 2009. The investigation showed that the accident ratio and consequence in the after-sale service sector were more than double than those of the production sites, and that working environment was relative inferior. This program is intended to remove potential risks, and improve the ability to prevent and manage EHS accidents.

At the kickoff the intent of this program, its main components, and the roles and responsibilities of those in charge of local service were delivered to the participants, and everyone promised to do their best to continuously prevent EHS accidents.

The main components of the after-sale service EHS program include evaluation of work hazards, safety guidelines, waste management guidelines, traffic accident prevention guidelines, EHS training, and internal EHS audit, and the number of industrial accidents declined by 75% from 4 in 2008 to 1 in 2009 after the enforcement of the after-sale service EHS.

Measurement and Improvement of Working Environment

To measure and evaluate to what extent workers are exposed to harmful factors, such as noise, dust and harmful chemical substances, and then improve facilities and equipments, we are measuring the working environment twice in Incheon and Changwon and once in Ansan. The Incheon Plant had the Catholic Industrial Medical Center take the measurements in November 2009. The Catholic Industrial Medical Center detected 21 cases of noise, and 4 cases of dust, and we are preparing improvements for them. We had the Changwon Hospital of Korea Workers Accident Medical Corporation Changwon measure the working environment of the Changwon Plant in May and November, and the working environment of the Ansan Parts Center in June, and the working environment of the Gwangju Service Center in December. The results showed no particular violation of standards.



Environmental cleaning at the Incheon Plant

Accident-free Campaign

All our employees and suppliers have been participating in the accident-free 100-day campaign since 2006, and the Machine Tools BG accomplished 200 accident-free days. Through the accident-free campaign we are trying to eradicate all industrial accidents, and create a bright and lively working atmosphere with focus on people.



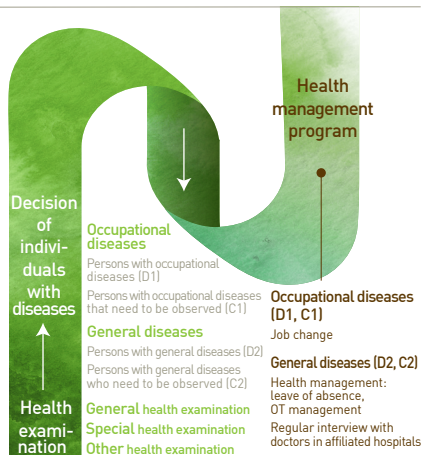
Blood donation certificate bank

Affiliated Hospital

We provide disease prevention, diagnosis and treatment services for the employees of Doosan Infracore, their families and the employees of our suppliers. When diseases are diagnosed, appropriate measures are taken and the diseases are closely managed, thereby contributing to the maintenance and promotion of workers' health.

The affiliated hospitals respond to infectious diseases like H1N1, provide emergency medical service, health management of workers on business trip in foreign countries, and operate smoking cessation clinics in addition to such basic health activities like quarantine and influenza vaccination. We also operate the blood donation certificate bank, which accumulates the blood donation certificates of employees and gives them back to them in case emergency.

Health Management Process



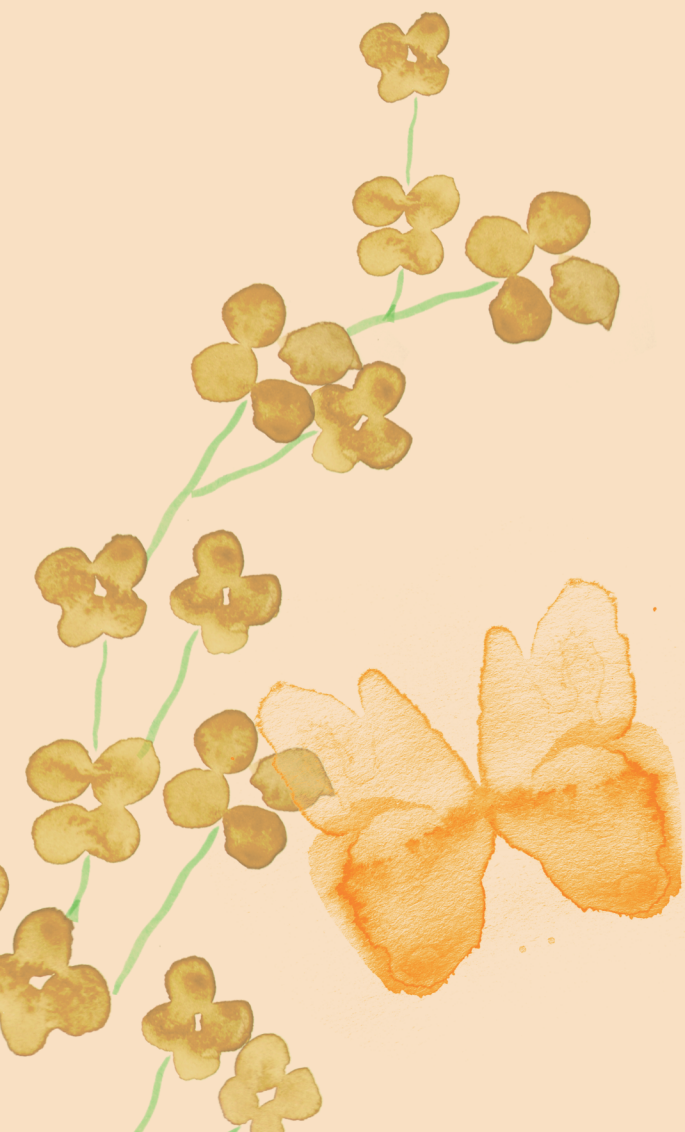
Health Management Programs

To manage the health of employees, we provide health examination services. The health examination detects persons with occupational diseases (D1, C1) or persons with general diseases (D2, C2). We periodically find out about the progress of diseases and the status of health management, and make it possible to treat and manage diseases at an early stage.

In 2009, despite the health management program, the number of employees who managed their health poorly was 846 in 2006, but the number rose to 1169 in 2009 by about 40%. Accordingly, we provided health management training for these employees 2~3 times a year. The focus our service has shifted from regulation to workers. We developed a proactive health promotion program to create a healthy working environment.

Appendix

A healthy promise for the future,
Doosan Infracore will keep it.



Appendix

Incheon Plant	60
Changwon Plant	61
Gunsan Plant	62
Doosan Infracore Co., Ltd., China (DICC)	63
Environmental Report Guideline Index	64
Independent Assurance Statement	65
Glossary	67
Reader Survey	68

A journey to hope and an advance to trust.

Doosan Infracore learns from nature, and
starts in nature.





Incheon Plant

We will become a true leader of the ISB.

Overview of the Incheon Plant

Date of establishment	June 1937
Employee status	2,200
Production capacity	Construction equipment: 6,000/year Forklifts: 20,000/year Engines: 56,000/year

Environmental Data of the Incheon Plant

Description	Consumption in 2009
Water consumption(m³)	514,678
Electric power(MWH)	142,592
City gas(km³)	4,920



Delivering briquettes with love



Donation a car for volunteer

Overview of the Incheon Plant

The Incheon Plant of Doosan Infracore was established in 1937. It consists of the construction equipment Area producing 55 models of excavators and others, the engine BG (business group) producing diesel engines and cast iron materials and the forklifts BG producing 155 models of forklifts and others, and. As Doosan's leading plant of the ISB, the Incheon Plant is reinforcing its product competitiveness and market dominance through continuous technological and quality innovation, and has firmly established itself as the undisputable No. 1 manufacturer of excavators, industrial engines and forklifts in the domestic market.

Current Status of Environmental Management at the Incheon Plant

For efficient use of energy, the Incheon Plant replaces old boilers with high-efficiency boilers, and is in the process of replacing old lighting fixtures with high-efficiency power-saving LED lamps. Also, we are recycling part of wastewater treatment effluent for cleaning and landscaping to maximize efficient use of water resources. As part of the Eco-friendly Factory Project which it has carried out since 2008 in cooperation with the City of Incheon, the Incheon Plant painted murals and improved the rooftop landscape. The rooftop landscape improvement project won the first prize at the 6th Incheon Landscaping Award Ceremony in the private sector. Our efforts to create a more eco-friendly environment were recognized. The Incheon Plant is planning to install a photovoltaic system in the parking tower, and build a system for real-time monitoring of energy consumption, and replace old boilers with power-saving types and old lighting fixtures with power-saving lamps, thereby creating a more comfortable, efficient and eco-friendly plant.

Current Status of the Social Contribution Activities at the Incheon Plant

The volunteer service corps, consisting of the employees of the Incheon Plant and their children, has been participating in the love neighbor event for three years. They deliver rice, fruits and briquettes to local residents. In 2009 they delivered more than 20,000 briquettes to over 500 low-income households near the plant. The Incheon Plant Floor Managers Association is also donating and volunteering their service for the elderly in the local community. They donated the prize money they received from work to help needy neighbors. Social contribution activities are performed everywhere in the Incheon Plant. The Incheon Plant is also supporting the annual local festival publicizing the local special product, and supported Global Fair & Festival 2009 Incheon, Korea. We are engaged in various social contribution activities customized to the distinct characteristics of the local community.

Changwon Plant

We will create a clean plant in the local community and become a global model enterprise through communication with local residents.



Changwon Plant 1

601-3, Namsan-dong,
Changwon, Gyeongsang-
namdo
Lot size : 148,457m²
No of employees : 1,070



Changwon Plant 3

82, Daewon-dong,
Changwon, Gyeongsang-
namdo
Lot size : 37,271m²
No of employees : 35
No of suppliers: 134

Overview of the Changwon Plant

Since it began the machine tools business in 1976, Doosan Infracore's Changwon Plant has expanded its business to include turning centers, machining centers, CNC boring machines, electric discharge machines, laser-cutting machines, aspheric turning centers, and automation systems. By growing our product line we have become one of the three largest manufacturers of machine tools in the world. Doosan Infracore has acquired various certifications, such as ISO 9001, ISO 14001, CE, UL, EMI, and EMC certifications, winning recognition for the excellent quality of our products. Equipped with our large-scale production facilities including FMC and FMS with around-the-clock unmanned operations, our large-scale overseas sale networks and service networks, we are trying to actively meet the needs of our customers.

Current Status of Environmental Management at the Changwon Plant

Environmental Data of the Changwon Plant

Description	Consumption in 2009
Water consumption(m ³)	108,614
Electric power(MWH)	21,625
City gas(km ³)	1,044

The Changwon Plant set up 40% of the legal requirement for materials emitted from processes as the internal standard, and tries to comply with it. In 2009 we finally realized a clean plant without any industrial accident or civil complaint.

Also, to secure the transparency of waste disposal and to prevent environmental accidents, we extended the scope of regular environmental auditing to include waste disposal service providers. We are inspecting proper disposal of waste, operation of pollution prevention facilities, and environmental conservation activities, and entered into a mentoring agreement with local small and medium-sized businesses which have insufficient environmental management technology to teach them environmental pollution prevention technology. We are also working hard to build an autonomous environmental management system for the businesses in local communities.

The Changwon Plant had its competency for environmental management recognized, and was named in 2007 as an autonomous environmental management inspection operation. In 2009 we entered into the Voluntary Agreement (VA) with Gyeongsang-namdo for energy saving and reduction of greenhouse gas emissions, and we are going to make sure that our processes are energy-saving with the aim of saving more than 5% of energy as compared to the previous year for a period of 5 years.



Household goods sharing
for recycling March 2009



Marathon of hope event
April 2009

Current status of the social contribution activities of the Changwon Plant

To become the closest neighbors of local residents, the Changwon Plant is engaged in various social contribution activities. In 2009, to divide roles with the society, we extended our sharing with the local community in various ways: the household goods recycling and sharing event in which we collect recycled articles and donate them to needy neighbors, the hope marathon event for triggering social interest in the less fortunate in society in which the disabled and the non-disabled run together, sharing the hazard of the heavy metals from waste mobile phones to humans and the natural environment, and the waste mobile phone collection campaign in which collected waste phones were donated to senior citizens living alone and the less fortunate in society.



Gunsan Plant

As an eco-friendly one-shop plant, we will become world-best with top-notch competitiveness.

Overview of the Gunsan Plant

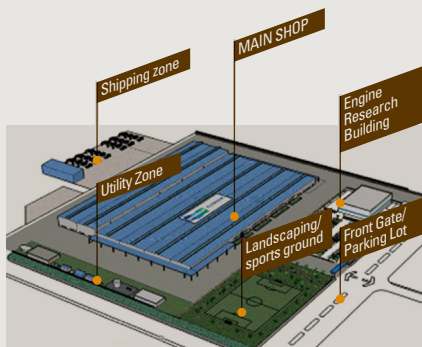
Date of establishment	December 2, 2009
Start of mass-production	January 1, 2010
Employee status (including suppliers)	239
Production capacity	Up to 4,000/year

Overview of the Gunsan Plant

Doosan Infracore's Gunsan Plant is a next-generation eco-friendly plant consisting of the main shop, a one-shop expansion of the existing factory on a 595,000m² lot, the utility zone, the shipping zone, and the engine research building. We are planning to complete the across-the-board mass-production system before the first half of 2010.

The Gunsan Plant introduced the MES (Manufacturing Execution System) to realize the JIT production through real-time Line Scheduling and no-warehouse operations, and introduce 3PL, a method of using a professional logistics company to procure parts, and build an efficient logistics system to reduce internal logistics and procurement logistics. We have a differentiated process design.

To realize a World Best Plant, the Gunsan Plant is in the process of finalizing the plant design, and we will capitalize on our advanced factory culture to grow into a Mother Plant with the competitiveness becoming one of the Global Top 5.



Current Status of Environmental Management at the Gunsan Plant

Built as a one-shop plant with the aim of constructing an eco-friendly plant, the Gunsan Plant eradicated rust, dust and cleaning water pollutants by eliminating outdoor work, and minimized the movement of finished products between the line and the test drive field/dock to minimize exhaust gas. We have a clean production system. We also changed the gouging process for repairing welding defects from the Air Carbon Arc method to the Plasma method, thereby reducing dust and noise.

The Gunsan Plant will start normal operations in 2010. In 2009 this plant does not use any resources or emit any substances as a result of process activities on a continuous basis.

A Competitive Mother Plant as one of the Global Top 5

◀ Double the competitive edge of our products by improving the factory culture

· Build an operating system with a differentiated competitive edge · Design cost-competitive process and equipments

Best Quality

Best Productivity

Shortest Delivery Time

▶ Provide an opportunity to improve the factory culture by securing price competitiveness

Advanced Factory Culture

· Advanced labor-management culture · Advanced working culture · Accident-free factory



Doosan Infracore Co., Ltd., China (DICC)

We will pursue profits rationally, give them back to society, and join forces to make a beautiful China.

Overview of DICC

Date of establishment	October 1, 1994
Start of mass-production	June 28, 1996
Employee status (including suppliers)	1,400
Production capacity	Up to 20,000/year

Overview of DICC

DICC was established in the Economic and Technological Development District I Yantai, Shandong Province, China on October 1, 1994. It was officially completed and began production in June 1996. Its main line of business includes the production and sale of excavators and forklifts. It can produce 20,000 excavators and 8,000 forklifts a year. It is capitalized at \$73 million. A total of 1,400 people are working in the Yantai plant, and over 200 people are working in the 13 sales branch centers across the country.

DICC has had the largest market share in the domestic excavator market for 8 years in a row since 2000, and has been rated as No. 1 in the <Chinese market product quality customer satisfaction survey> conducted by the People's Daily Market Information Newspaper, a daily newspaper of the Chinese government for 6 years in a row.

Environmental Data of DICC

Description	Consumption in 2009
Water consumption(m³)	103,610
Electric power(MWH)	15,744
City gas(km³)	2,959

Major Environmental Management Accomplishments in 2009

DICC is striving for continuous environmental management through regular integrated EHS inspections, including the EHS audit of the main office. It already acquired the ISO 9001 international quality management system certification back in 2000, the ISO 14001(2001) environmental management system certification, and the OHSAS 18001(2003) occupational health & safety management system certification.

DICC Social Contribution Activities

To give back their profits to society, DICC and DISD has donated RMB7.45 million to the "Chinese Youth Development Fund" since 2001, and helped establish 27 elementary schools of hope across the country. In case of natural disasters like an earthquake, they send the "Doosan One Family" support and recovery team, provide equipments and manpower, and donate money.

Major Certifications and Awards

Year	Description of certifications	Certification authorities
Feb. 2009	Named the safest production company in Yantai City in 2008	Safety Supervisory Bureau of Yantai City
Feb. 2009	Named the most sanitary company in Yantai City in 2008	Sanitation Bureau of Yantai City
June 2009	Named the most eco-friendly company in the province	Bureau of Environmental Protection, Shandong Province
August 2009	Acquired Level 1 in the national safe mass standardization	National Safety Supervisory Bureau /Mechanical Industry Safety and Sanitation Association
Nov. 2009	Named the best company in safe production education	Safety Supervisory Bureau of Yantai City

Environmental Report

Guideline Index

Ministry of Environment 2007 environmental report guideline				
	Description	Indicator number	Page	GRI G3
Outline	Declaration of CEO	1.1	2-3	
	About Doosan Infracore	1.2	8-13	
	Outline of the environmental report	1.3	Front cover	
	Summary	1.4	4-5	
Environmental vision and strategy	Environmental policy	2.1	16-17	
	Mid-to-long-term environmental goals	2.2	18	
	Environmental goals accomplished in the year	2.3	18	
	Environmental goals of the following year	2.4	18	
Environmental management system	Environmental management system	3.1	19	
	Environmental accident response system	3.2	22	
	Environmental audit	3.3	20	
	Environmental education	3.4	21-22	
	Environmental performance evaluation (EPE)	3.5	20	
	Environmental accounting	3.6	23	EN30. Total money spent on environmental protection and total investments
	External environmental investment (new)	3.7	-	
Environmental impact and performance	Resource use	4.1	42	EN1. Quantity of raw materials used by weight or volume EN2. % of recycled raw materials used EN8. Total water intake by source
	Water use	4.2	42	EN9. Water supply source greatly affected by water intake EN10. Total quantity and proportion of reused and recycled water
	Energy use	4.3	38-39	EN3. Direct energy consumption by primary source of energy EN4. Indirect energy consumption by primary source of energy EN5. Amount of energy reduced by saving and improvement of efficiency EN7. Indirect energy saving efforts and outcomes
	Response to climate change (changed)	4.4	32-39	EN16. Total direct and indirect greenhouse gas emissions EN17. Other indirect greenhouse gases EN18. Greenhouse gas reduction efforts and outcomes
	Use and emission of ozone depletion materials	4.5	45	EN19. Ozone depletion material emissions
	Emission of air pollutants	4.6	43	EN20. Emission of NOx, SOx and other important air pollutants
	Emission of water pollutants	4.7	44	EN21. Waste discharge and water quality by final discharge location EN25. Names, sizes, protection status and biodiversity values of the waters and habitats affected by the waste water discharge of the reporting organization
	Waste discharge and recycling	4.8	48	EN22. Waste discharge by shape and treatment method EN24. Transportation/carry-in/carry-out/treated amount of the wastes specified in Basel Convention Annexes I, II, III and VIII, and the amount taken out of the country
	Soil contamination management	4.9	49	
	Environmental impact assessment	4.10	49	
	Eco-friendly products	4.11	24-31, 36	EN6. Efforts to supply energy-efficient or energy infrastructure products and services and energy saving through these efforts EN26. Activities to reduce the environmental impacts of products and services EN27. % recycled of sold products and related packing materials
	Eco-friendly packaging	4.12	46	EN27. % recycled of sold products and related packing materials
	Eco-friendly transportation	4.13	46	EN29. Environmental impacts of the transportation of products and raw materials and the relocation of employees
	Health and safety	4.14	22, 56-57	
	Noise and vibration	4.15	49	
	Harmful chemical substance management	4.16	45	EN23. Total number and volume of significant spills
Stakeholder partnership	Ecosystem preservation effort	5.1	53, 55	EN11. Location and size of land owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas EN12. Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas EN13. Habitats protected or restored EN14. Strategies, current actions, and future plans for managing impacts on biodiversity EN15. Number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk
	Supply Chain Environmental Management	5.3	47, 52	
	Legal compliance	5.3	40, 43, 44, 49	EN28. Monetary value of significant fines and total number of non-monetary sanctions for noncompliance with environmental laws and regulations
	Certification and awards	5.4	27, 29-31, 53, 54, 56, 63	
	Environmental communication activities	5.5	35, 37, 52, 55	
	Response to international environmental regulation (new)	5.6	47	
	Report index (new)	6.1	64	
Appendix	Independent party assurance opinion	6.2	65-66	
	Glossary	6.3	67	
	Reader's survey	6.4	68	
	Survey result	6.5	-	
	Environmental data by workplace	6.6	60-63	

Independent Assurance Opinion Doosan Infracore Environmental Report 2010

Doosan Infracore commissioned BSI Group Korea to undertake independent assurance of the Environmental Report 2010. BSI is independent to Doosan Infracore and this assurance was conducted by BSI assurance team consisting of experts in various fields with broad knowledge and in-depth experience enough to display a high level of competence in accordance with the BSI fair trade code of conduct.

Scope This assurance was conducted for the report prepared on the activities and systems related of the environmental performance of Doosan Infracore's headquarters (Incheon factory) and Changwon factory from 1 January 2009 to 31 December 2009 and other offices and overseas affiliates were excluded from this assurance.

Scope This assurance was undertaken on the basis of the six principles mentioned in the Ministry of Environmental Report Guideline with fitness, reliability, clarity, comparability, timeliness and verifiability. We also referred to the environment performance indicators of GRI(Global Reporting Initiative) G3 Guidelines.

Type of assurance and assurance level provided

As described in the scope of the report, this assurance is limited. The assurance team verified the information on the performance reported by Doosan Infracore, and the accuracy of various standards by means of evidential data such as related systems, processes, regulations and information. Doosan Infracore is responsible for the accuracy of the source data presented during the assurance. The assurance team used the data presented by Doosan Infracore to prepare this assurance opinion. However, the assurance team verified the reliability of relevant sources and data for material issues.

Responsibility

Doosan Infracore is responsible for this environmental report. The responsibility of BSI is to provide stakeholders with an independent report based on the specified scope and methodology. BSI adopts a balanced approach toward all stakeholders of Doosan Infracore.

This Independent Assurance Statement was prepared on the basis of information presented by Doosan Infracore to BSI. BSI confirmed that the related information was complete and accurate. Any queries that may be arisen by this Independent Assurance Statement or matters relating to it should be only addressed to Doosan Infracore.

Methodology

The assurance team used the following methods to verify the various arguments contained in Doosan Infracore's environmental report, and the systems and process used for managing related data and reporting ;

- Reviewed the last year report and research used to determine priority
- Reviewed procedures of data preparation on workplace, system and environmental strategies implementation through on-site visit
- Reviewed evidences to support material assertions
- Interviewed with employees related to the preparation of the environmental report, and the provision of data
- Reviewed data gathering and collection process and inspecting high priority data related to material issues with sampling criteria

Independent Assurance Opinion Doosan Infracore Environmental Report 2010

Observations

The assurance team reviewed the draft of the report and confirmed our opinions reflected on the revised report. We made sure that this report truly and fairly explained the environmental policy, strategy, management system, operations and performance of Doosan Infracore. On the basis of the work undertaken, nothing came to our attention to suggest that the report did not properly describe Doosan Infracore's adherence to environmental performance and arguments.

Opinion Statement of Improvement

Without affecting our assurance opinion, we also provide the following observation. Since the first environmental report, Doosan Infracore has developed the environment management at the corporate level, especially performing on continuous actions toward environmental vision. On the basis of it, we expect that Doosan Infracore will manage and respond to social and economic issues for sustainable development. Our recommendations are below in detail ;

- Doosan Infracore has emphasized the corporate role on global environment and social problems with issue of climate change, which led to the environmental strategies and plans for accomplishing the Global Leading Green-ISB Company.
- In particular, we noted that Doosan Infracore had made efforts on the development of environment-friendly products to save resources and reduce greenhouse gas emission, which would create new value to customers in various ways.
- Doosan Infracore had effectively established the strategy and plan to accomplish EHS management vision with a title of 'Global Leading Green-ISB Company' since the last year, and it was good example that Doosan Infracore had performed the development of Doosan EHS e-learning, CDP participation for climate change and win of 'Reddot Design Award 2009' in connection with its mid-to-long-term strategy.
- Doosan Infracore executed processes for materiality test of stakeholders' participation in the last year and partially conducted stakeholder engagement in this year. We recommend that the process of stakeholder engagement will be strengthened to continuously recognize material issues on environment.
- In relation to response to climate change, Doosan Infracore's greenhouse gas inventory building and mid-to-long-term measures were reported as materiality issues in the report. For more effective and strategic response to climate change, it will be necessary to enhance the overall infrastructure for continuous improvement.

5 April 2010

Managing Director of BSI Group Korea Limited
JungKee Cheon




Appendix



The BSI mark will be present on your Independent Assurance Opinion for insertion in your organization's sustainability report or corporate social responsibility report once the assurance has been completed.

Glossary

2S3R	(Seiri [sorting], and seiton [straighten or set in order]) 3R (right quality, right quantity and right position)
COD (chemical oxygen demand)	The water is contaminated by the urban waste water or factory waste water containing organic materials flowing into the river, lake or ocean. COD is the indicator for the quality of the contaminated water. When the oxidizer is put in contaminated water for oxidation of organic materials, the amount of oxygen corresponding to the amount of the oxidizer consumed is expressed in mg/l or ppm.
EHS	Environment, Health and Safety
GHG(Greenhouse Gas)	It is a component gas in the air, either natural or artificial. It is a gas that absorbs the radiation in relation to a certain wavelength and is emitted within the infrared radiation spectrum emitted by the surface of the earth, atmosphere and cloud. Kyoto Protocol includes Sulfur Hexafluoride (SF ₆), hydrofluorocarbons (HFCs) and perfluorocarbon (PFCs) as well as carbon dioxide, nitrogen dioxide and methane.
GRI(Global Reporting Initiative)	This organization is for developing and propagating the sustainability report guideline that can be commonly across the globe. With the participation of various stakeholders, such as corporations, research institutes, private organizations and investment organizations, it was founded in 1997 by the Coalition for Environmentally Responsible Economies (CERES), and separated as an independent organization in 2002. It is an official cooperation organization of the United Nations Environmental Program, and affiliated with the Global Compact.
Hybrid	It refers to the joining of two or more elements to accomplish a certain goal. The hybrid method stores the motion energy generated while the car is running as electrical energy, and uses it to make up for the insufficient engine output.
IPCC(Intergovernmental Panel on Climate Change)	It is a UN-affiliated organization jointly founded by Meteorological Organization (WMO) and United Nations Environment Programme (UNEP) in a bid to assess the global risk related to climate change and come up with international countermeasures.
ISB(Infrastructure Support Business)	ISB is Doosan's growth engine and core business for global business expansion. It includes all businesses related to the building and management of social infrastructure. This business involves development of the infrastructure necessary for the public and private sector including the manufacturing of various equipments and facilities, manufacturing of parts, construction, civil engineering, transportation and other related supplementary service industries.
ISO 14001	It evaluates the environmental management system (EMS: Environmental Management System) of a corporation and certifies that it conforms to the international standard.
REACH (Registration, Evaluation, Authorization, restriction of Chemicals)	It refers to the new chemical substance management regulation that makes sure that all phase-in substances more than one ton of which is manufactured in EU or imported by EU in a year are registered, evaluated, authorized and restricted in accordance with the quantity of manufacture and imports, and their harmfulness.
SS(Suspended Solids)	Materials 2mm or less in diameter, not dissolved in the water. Also called suspended materials.
THC(Total HydroCarbon)	A compound of carbon and hydrogen, It is mostly generated in refineries and painting facilities (paint and thinner). As there are innumerable kinds of hydrocarbon, THC is a generic term for all of them. Its main component is alkane. Some of its components are harmful on their own, but some others cause damage as they generate oxidizing substances through mineralization.

Reader Survey

Our heartfelt thanks go to those of you who showed interest in "Doosan Infracore Environmental Report 2010." Your precious opinion about this report will go a long way in advancing our environment management. It would be greatly appreciated if you would fill out the survey and send it to us via fax or e-mail.

Contact us at

FAX : 032-211-1348

E-mail : environment.infracore@doosan.com

Sender (※omissible)

Name

Contact info

1. What group do you belong to?

- ① Investors/shareholders ② Customers ③ Suppliers ④ Local residents/NGO
 ⑤ Industries ⑥ Academics ⑦ Journalism ⑧ Government/Administrative agencies
 ⑨ DI employees ⑩ Other()

2. What do you think of the contents and organization of this report?

- ① Very good ② Good ③ Average ④ So-so.

3. What do you think of Doosan Infracore's environmental policy and activities?

- ① Very good ② Good ③ Average ④ So-so.

4. Which part of this report is your main interest?

- ① Outline of the report and CEO Message ② Reinforcement of the environmental management system
 ③ Development of eco-friendly product ④ Responding to climate change
 ⑤ Building the clean production system ⑥ Reinforcement of social communication
 ⑦ Other ()

5. Please feel free to write down your opinion about Doosan Infracore's environmental report.

()



Doosan Infracore www.doosaninfracore.com



The report was printed on recycled paper with soybean-based ink.

Designed by d.Forever T. 02 734 9000