



Power Comes from Nature

Environmental Report 2009

DOOSAN

Doosan Infracore

Power Comes from Nature

Outline of the Report

This report is the environmental report published by Doosan Infracore. In this report Doosan Infracore will disclose its environmental activities and performance transparently to stakeholders, such as customers, vendors and local communities, and listen to the opinions of stakeholders and reflect them in its management.

Scope and Period of Reporting

This report covers the environmental performance and activities of the Incheon factory and Changwon factory of Doosan Infracore, and whenever necessary, included those of the Seoul Office, the parts center, and the Technology Institute. The reporting period is from January 1, 2008 to December 31, 2008. If it was necessary for comparison to show the trends of the past, however, previous data was also used. Doosan Infracore is planning to publish the environmental report on an annual basis.

Guideline

This report was prepared in accordance with the Ministry of Environment 2007 environmental report guideline, and the 30 environmental performance indicators of the GRI (Global Reporting Initiative) G3 guideline. In particular, Doosan Infracore disclosed specific information on key issues identified by the materiality test.

Assurance

For increased accuracy and reliability, this report was verified by a third-party assurance authority. Please refer to page 53 for more information on the assurance report.

Additional Information

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

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Green

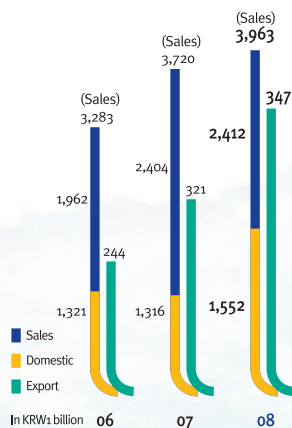
Nature is the place we live our precious lives.

Doosan Infracore has an important mission:

to pass the value of our precious nature on to our future generations.

23.8%, 31.3%

Since 2005 our sales and operating income have continued to grow, and our sales in 2008 rose 6.5% over the previous year, and our operating income increased 8.1%. In particular, our growth was outstanding in the Chinese market and emerging markets: 23.8% and 31.3% respectively.





Introduction

- 04 Material Issues
- 06 CEO Message
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Material Issues

04

Participation of Stakeholders

Stakeholders refer to individuals or organizations that are influenced by the activities, products and services of Doosan Infracore, or influences Doosan Infracore in executing strategies and accomplishing goals. In this report we collected the opinions of stakeholders in regard to providing various kinds of information, including EHS (Environment, Health, and Safety) activities and performance. On this basis we selected issues of materiality, and engaged in two-way communication with stakeholders, not one-way reporting. To listen to the opinions of stakeholders, we conducted an in-depth interview of 14 DI employees and external experts from July 24, 2008 to September 10, 2008, and conducted a survey of 322 people in the stakeholders groups.

Design

Key Results

Phase 1: Qualitative Study			Phase 2: Quantitative Study		
Method	In-depth Interview		Interview and online survey using structured questionnaires		
Subjects	Incheon Metropolitan Government, Local residents, Environmental Organizations, Vendors, Customers, Executives, Managers, Labor union, etc. (14 in total)		Local community (60), Media, Universities, Environmental Organizations, Financial Institutions and Government (40), External Customers (80), Employees (92), Vendors (50)		
Period	July 24, 2008 ~ August 6, 2008		August 14, 2008 ~ September 10, 2008		
	Local Community	Experts	External Customers	Vendors	Employees
Product	<ul style="list-style-type: none"> • Pollution management 	<ul style="list-style-type: none"> • Pollution Management • Product Energy Efficiency • Response to Environment Trade Regulations 	<ul style="list-style-type: none"> • Pollution Management • Product Energy Efficiency 	<ul style="list-style-type: none"> • Products Using Less Raw Materials 	<ul style="list-style-type: none"> • Product Energy Efficiency
Production & Logistics	<ul style="list-style-type: none"> • Equipment Noise • Dust/Stench Automobile • Exhaust Fumes 	<ul style="list-style-type: none"> • Greenhouse Gases • Eco-Friendly Energy • Waste • Soil Contamination 	<ul style="list-style-type: none"> • Oil Leak in the Ocean • Dust 	<ul style="list-style-type: none"> • Equipment noise • Automobile exhaust fumes 	<ul style="list-style-type: none"> • Equipment Noise • Noise • Automobile Exhaust Fumes • Reduction of Greenhouse Gases
Other	<ul style="list-style-type: none"> • Legal Compliance • Efforts of the Management • Reinforcement of Social Services 	<ul style="list-style-type: none"> • Green Procurement • Reinforcement of PR • Organization / Performance Evaluation • Integrated Environmental System 	<ul style="list-style-type: none"> • Removal of Asbestos From Factories 	<ul style="list-style-type: none"> • Removal of Asbestos From Factories 	<ul style="list-style-type: none"> • Green Procurement • Improvement of Perception through Training • Removal of Asbestos From Factories

Power Comes from Nature, Doosan Infracore

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Materiality Test

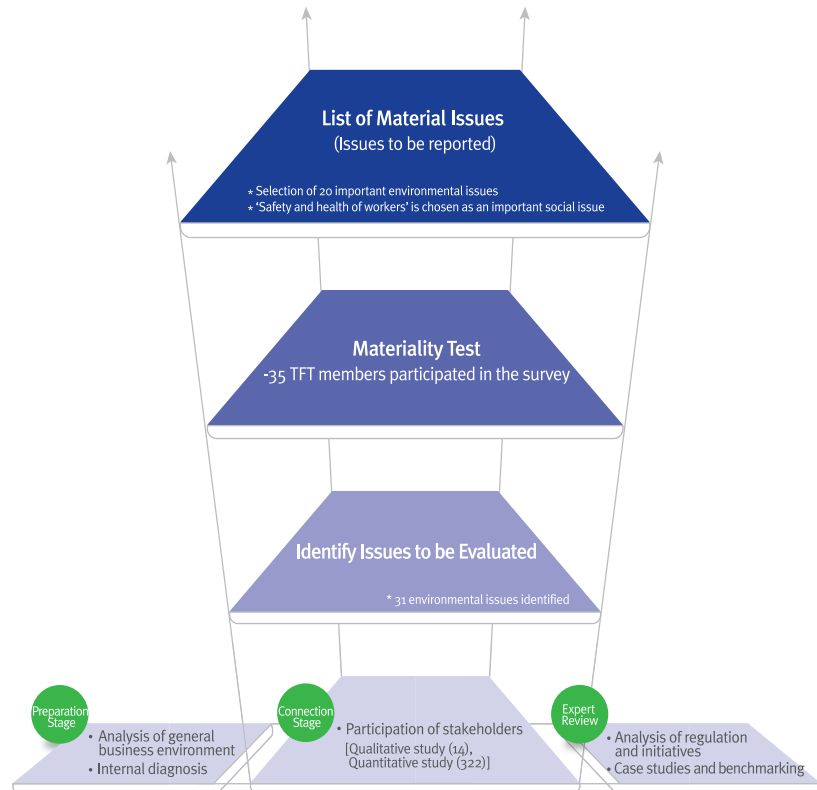
To grasp the importance of information, Doosan Infracore conducted the materiality test in consideration of various internal and external factors, such as business environment and regulation, initiative, tasks of the organization, competitive strategy, interests of stakeholders, social expectations, vendors and impact on customers. As a result, diverse issues of importance have been identified in the field of environment as illustrated below:

Environmental Issue Evaluation Matrix



- | | |
|---|--|
| 1 Water Pollution | 2 Use of Harmful Substances |
| 3 Air Pollution | 4 Eco-Friendly Products |
| 5 Waste, Environmental Management Certification | 6 Compliance with Environmental Laws and Regulations |
| 7 Soil Contamination | 8 Climate Change |
| 9 Eco-Friendly Design and Mind | 10 Workplace Noise |
| 11 Equipment Noise | 12 Environmental Expenditure |
| 13 Environment-Friendly Procurement | 14 Environmental Impact Assessment |
| 15 Asbestos | 16 Energy |
| 17 Workplace Odor | 18 Response to Environmental and Trade Regulation |

Materiality Test Framework



CEO Message

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Vice Chairman of Doosan Infracore Sungchul Choe

최 승철



*“Doosan Infracore promises our customers that
we will be the most trusted business partner.
We will put ourselves in the shoes of customers
and go beyond customer satisfaction into the realm of respect.”*

Dear stakeholders,

I extend my heartfelt gratitude to you for your constant support for Doosan Infracore.

Now, one of the world’s highest priorities is environmental conservation, and the world is in need of the active role and responsibility of corporations for environmentally sustainable development.

To step into the global top class, Doosan Infracore is making constant efforts to create business performance, such as M&A, advancing into foreign markets, and management reforms, along with ethical management, contribution to society, and environmental management.

In the belief that the communication with stakeholders, such as customers, shareholders, local communities, employees, etc., will improve our efforts, we have decided to publish an environmental report describing the environmental activities and performance of the company.

Doosan Infracore, as the greatest machinery manufacturer of Korea that has built an unchallenged reputation in business areas such as construction equipment, industrial vehicles, machine tools, engines, etc., has been putting great effort to practice environmental management. Starting by officially announcing the environmental policy in 1996, we have systemized environmental management and are currently carrying out environment-friendly product development and environmental conservation activities in local communities.

Doosan Infracore will not stop its environmental management, and is planning to select and carry out medium-and long-term tasks such as developing environment-friendly products, building an environment-friendly supply chain, training professionals, advancing the environmental management of overseas establishments, and contributing to society.

We believe that these efforts will build a foundation for Doosan Infracore to become a global TOP 5 corporation in the infrastructure support business(ISB) since the corporation’s social role and responsibility through environmental management provides safety and a rich life environment for customers, local communities, and employees, and the corporation can secure competitiveness in the global market through differentiated brand value.

Now, Doosan Infracore will focus on expanding our environmental efforts, using our long experience and competence as a leader of the machinery industry of Korea, and growing to become a globally respected corporation by creating values for stakeholders.

I ask for your constant support and encouragement.

Thank you.

Doosan Infracore

About Us

Starting out as Daewoo Heavy Industries & Machinery Ltd. in 1937, Doosan Infracore is a global corporation with about 20 global networks, including 5 production operations and 12 sales operations, in regions such as China, Europe, and North America. The main office is located in Korea, and construction equipment, forklifts, and engines are manufactured in the Incheon factory, and machine tools in the Changwon factory.

There are 7,800 employees in total, 4,600 and 3,200 people working domestically and abroad, respectively.

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Despite the world-wide economic slump, Doosan Infracore maintained a steady growth rate. Its sales amounted to KRW3,963.4 billion, operating profits KRW347.4 billion, and ordinary income KRW23.2 billion. By region, growth rates in the emerging markets, such as China (25% increase compared with the previous year), CIS, Central and South America, the Middle East, India, etc. greatly increased, and by product, the engine group grew 20% over the previous year. Operating profits increased 8.1% over the previous year and reached KRW347.4 billion due to the increase in sales of high-return equipment in China, acceleration of development in new markets, and curtailment of costs in spite of the increase in raw material expenses. However, ordinary income declined 92% to KRW23.2 billion from the previous year due to the increased loss on valuation using the equity method of accounting in overseas affiliates.

This year, despite the economic forecast of minus growth for the entire industries, Doosan Infracore is aiming to increase sales by 2.2% to KRW3,507.3 billion as compared to the previous year (KRW3,431.3 billion if the split of Doosan DST is taken into account). Its operating profits will be KRW397.5 billion, and ordinary income will grow to KRW277.4 billion as we are trying to make inroads into new markets, promote new projects such as the North America CNG engines and portal machine tools, gain cost competitiveness, and stabilize quality.

Factories in Korea

Classification	Incheon Factory	Changwon Factory
Address	7-11, Hwasu-dong, Dong-gu, Incheon Metropolitan City	601-3, Namsan-dong, Changwon, Gyeongsangnam-do
Year of Establishment	1937	1976
Total Area	349,231 m ²	134,808 m ²
Number of Employees	2,521	1,120
Product	Engine, excavators, forklifts	Machine tools



Incheon factory



Changwon factory

General Status

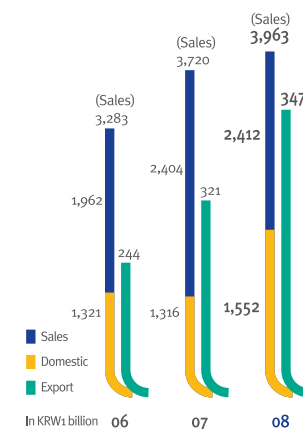
Company Name	Doosan Infracore Co., Ltd.
Location	7-11, Hwasu-dong, Dong-gu, Incheon Metropolitan City
CEO	Sungchul Choe
Date of Establishment	June 1937

Financial Status

(Unit: KRW1,000,000)

Total Assets	5,049,293
Total Liabilities	3,379,779
Total Capital	1,669,514
Sales	3,963,377
Operating Profit	347,366

Sales Trend





Power up for tomorrow, Doosan Infracore

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Overseas



Doosan Infracore

Vision and Strategy

Doosan Infracore is striving to achieve its vision of the 'global TOP 5 of the ISB industry,' meaning that we will grow to be one of the 5 greatest corporations in the global market. To reach the goal, building a global basis for competition is essential, and in this perspective, we have selected and are promoting 4 mid-term strategies of 'expansion of the virtuous cycle,' 'securing the best quality,' 'sustainable management innovation,' and 'strengthening global competence of the organization.'

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► Vision

→ Global TOP 5 of the ISB industry

The long-term goal of Doosan Infracore to grow into one of the 5 greatest corporations in the global ISB market.



► Goal

→ Reaching KRW10 trillion and a 10% operating profit rate

Medium-term financial goal that must be achieved before 2010 to build a basis for global competition.



► Slogan

→ Vision 10-10

The slogan represents the strong will of Doosan Infracore to reach 10 trillion of sales and a 10% operating profit rate till 2010 through the successful promotion of the strategic tasks.



► Execution of Strategy

→ Expand the Virtuous Cycle

We will build a system that improves the scale and competence through the virtuous cycle by reaching sales of a global first-class corporation.

→ Best Quality

We will foster management skills of the best quality for the customer's satisfaction.

→ Continuous Management Reform

We will ensure flexible customer response skills and cost competitiveness of a global standard for continuous management reform.

→ Global Organization Competence

We will hire and train high-caliber personnel of a sufficient number/quality and strengthen the organization competence for the organization and business management of a global standard.



Power Compliant with Nature, *Doosan Infracore*

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Key Businesses

As the Defense Products BG (Business Group) was split at the end of 2008, Doosan Infracore is now comprised of 4 BG's: Construction Equipment BG, Machine Tools BG, Industrial vehicles BG, and Engines Materials BG.

■ Main Products of BGs

BG	Main Products
Construction Equipment	RTS (Reduced Tail Swing) Excavator, small excavators, medium and large-sized excavators, wheel-type excavators, wheel loader, skid loader
Machine Tools & Automation	CNC lathe, machining center, general factory automation equipment
Industrial Vehicles	Engine forklifts, electric forklifts
Engine Materials	Engines for trucks, buses and farm machines, diesel / natural gas engines, engines for ships, generator diesel engine for ships, diesel/natural engine for power generators, iron castings, aluminum castings, sintered products



Construction equipment_DX220LC



Machine tools automation_DNM500



Engine DV11S-Euro4



Industrial vehicle_D185-5

History

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2000. 10

The Machinery Division separated from Daewoo Heavy Industries and launched as Daewoo Heavy Industries & Machinery

2003. 07

Established Doosan Infracore Machine Tools Yantai Co., Ltd. in Shandong, China

2004. 11

Awarded the USD 1 Billion Export Tower during the Trade Day

2005. 04

Reborn as Doosan Infracore Co., Ltd.

2005. 12

Established Doosan Infracore Co., Ltd. (rep. office) in Dubai

2006. 07

Doosan Forklift's aggregate production reached 300,000 unit

2000 - 2006

2006. 09

Doosan Infracore (China) investment Co., Ltd. Established as a holding company

2006. 10

Doosan Capital acquired

2007. 01

Doosan Mecatek's Machine Tools Division acquired

2007. 03

CTI, holder of original technology for HCNG engines, acquired

2007. 04

Doosan Infracore (Suzhou) Co., Ltd. established

2007. 06

Doosan Infracore India Private Ltd. established

2007. 07

Yantai Yuhua Machinery Ltd. acquired

2007. 09

Doosan Infracore International, Inc. (DII) established

Doosan Holdings International Ltd. established

Doosan Holdings Europe Ltd. established

2007

2007. 11

Ingersoll-Rand's compact construction equipment unit acquired, along with two other units

2007. 11

US\$2 Billion Export Tower received on Trade Day

2007. 12

Developed Euro4 engine independently to penetrate advanced markets

2008. 07

Developed China-style wheel loader and built a new factory

2008. 08

Moxy, a Norwegian large size dump truck company, acquired

2008. 10

Acquired Germany's ATL

2008. 11

DICC's aggregate excavator production and sales exceeded 60,000

The Machine Tools R&D Center completed (Changwon factory)

2008. 12

The Defense Products Division Separated from Doosan Infracore. (The Defense Products Division reborn as 'Doosan DST')

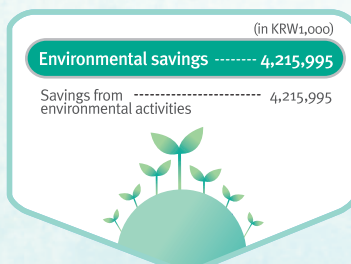
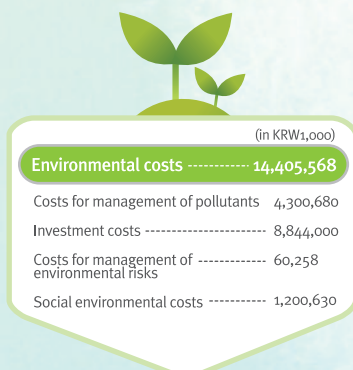
2008

Renovation

Power, compliant with nature, starts with environmental management.
Doosan Infracore practices environmental management
in all areas of its business.

KRW 14.4 billion, KRW 4.2 billion

Doosan Infracore invested a total of KRW14.4 billion in environmental facilities in 2008 to improve the coating facilities and the water treatment facilities, and eco-friendly factory projects and social contributions, and saved a total of KRW4.2 billion through various environmental management activities, such as reduction of raw materials and waste.





Environmental Management

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- 16 Environmental Policy
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Vision and strategy

Environmental Policy

Until the current policy was established in 2007, the environmental safety policy of Doosan Infracore was revised 7 times after its establishment in 1995 to share the important contents of the environmental management strategy both at home and abroad. The environmental safety policy stipulates a total of 4 principles including the operation of an environmental safety management system which aims for the abundant life of humankind and conservation of the earth's environment, and through these principles, it encourages enterprise-wide participation in environmental safety management.

Furthermore, we have established an environmental vision of the 'Global Leading Green-ISO Company' to ensure the sustainable development of the company, and we aspire to improve the company value and contribute to the earth's sustainability by devising promotion strategies and tasks, such as establishing an environmental management system, building a clean production system, responding to climate change, developing eco-friendly products, and increasing social communication.

Environmental Safety Policies

All employees of Doosan Infracore established and complies with the following policies to respect people and preserve the environment in every aspect of the business, and for the sake of affluent life of people and preservation of the global environment.

1. Environmental safety management system operations

We establish and operate the management system to continuously improve the direct and indirect impacts of products, activities and service on the environmental safety and health.

2. Compliance with environmental safety laws and regulations

We will not only comply with domestic and overseas environmental safety and health laws and regulations and other requirements, but also establish and operate stricter internal standards.

3. Development of environmental technology and prevention of pollution

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

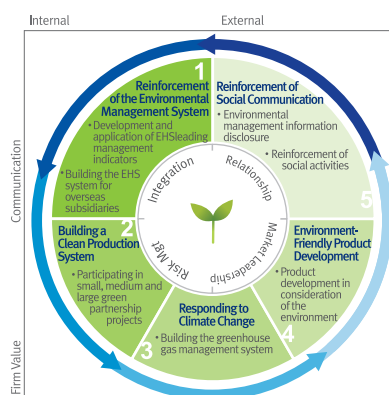
4. Accident-free workplace

We will build a comfortable and safe workplace to improve the quality of the health and life of employees.



Global Leading Green-ISB Company, Doosan Infracore

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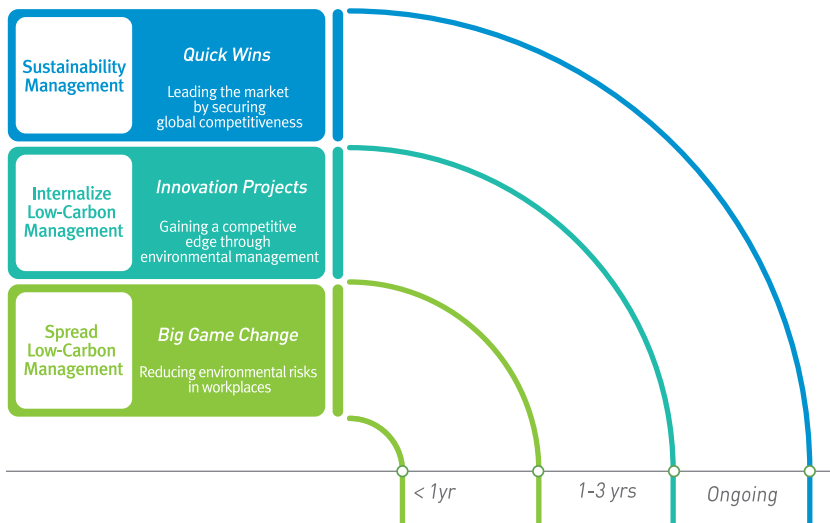
5 Strategies

The 5 strategies are based on the cycle as illustrated in the following figure. They are expected to bring 4 effects: Integration, Risk, Market Leadership, and Relationship with stakeholders.

Mid-to-Long-Term Roadmap

To become a 'Global Leading Green-ISB Company', Doosan Infracore has designed a mid-to-long-term roadmap. In year 2009, we will build various systems and organizations to effectively promote environmental management in domestic and overseas factories, and in 2010 and 2011, we will customize the environmental management system and secure a competitive advantage. In the long run, we will try and become an environmentally healthy and sustainable company that fulfills its economic and social responsibility.

Global Leading Green-ISB Company



Vision and Strategy

Environmental Goals

To carry out the environmental safety policies, Doosan Infracore has established environmental goals as below, reduced power consumption and pollutants, and successfully operated environmental programs.

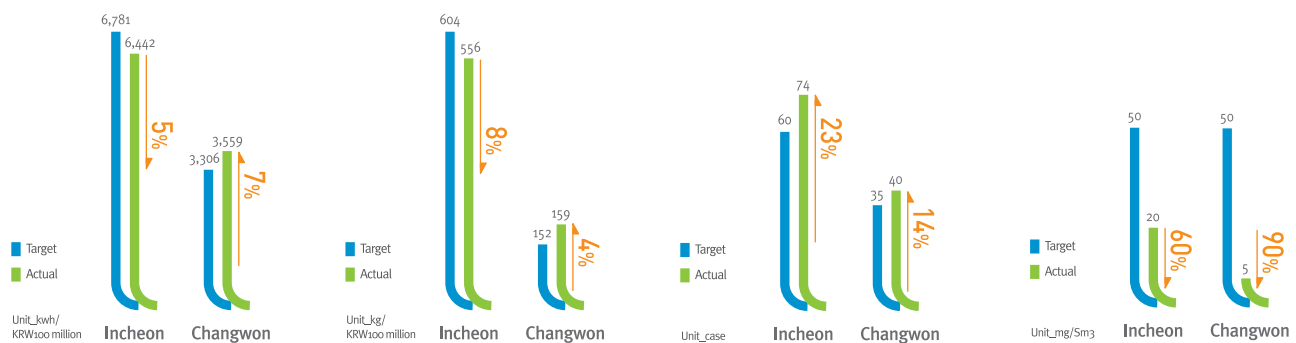
Environmental Goals

- A. Reduce power consumption
- B. Reduce pollutants(Water pollutants at a level 50% lower than the legal standard)
- C. Operate environmental management programs

The Incheon factory reduced the basic unit of power consumption by 5% and that of waste production by 8% from the previous year, and attained every environmental goal by operating 74 environmental management programs with the participation of every department.

The Changwon factory carried out environmental improvement activities, but failed to reach the basic unit reduction goals in terms of power consumption and waste production due to the merge of 3 plants. However, pollutants were reduced 12%, more than 50% less than that stipulated by law, and operated 40 environmental management programs. In 2009, we will continue to establish and promote environmental goals for constant improvement.

Power Consumption Basic Unit | Waste Emission Basic Unit | Environmental Management 2008 | Dust Concentration

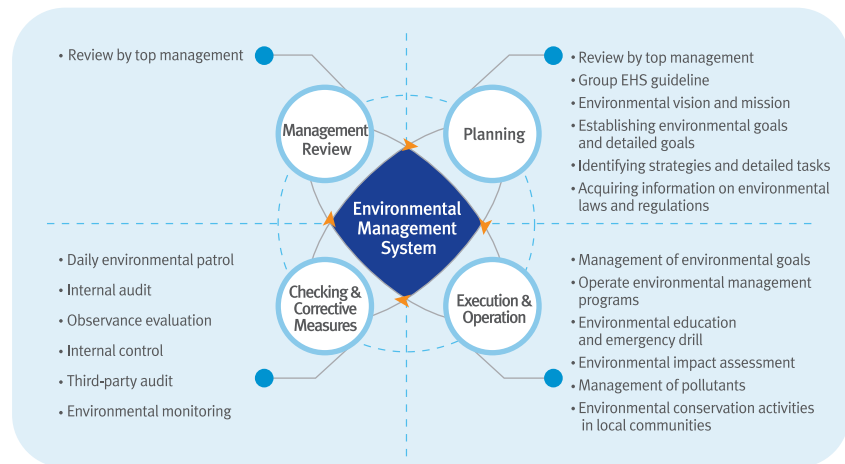


Environmental Management System

Environmental Management System

Starting from the establishment of the environmental policy, the environmental management of Doosan Infracore was regularized in the mid 1990s. Especially, we have been trying to prevent environmental pollution and minimize environmental impact by establishing the environmental management system, the Occupational Health & Safety Management System, and the quality management system in consideration of the general environmental management with focus on research development and production activities. In 2008, Doosan Infracore established an environmental mission, vision, and strategy system, and designed and announced a group EHS Guideline and vendor manual to improve the company value and further contribute to the sustainability of humankind through environment-friendly management from the long-term point of view.

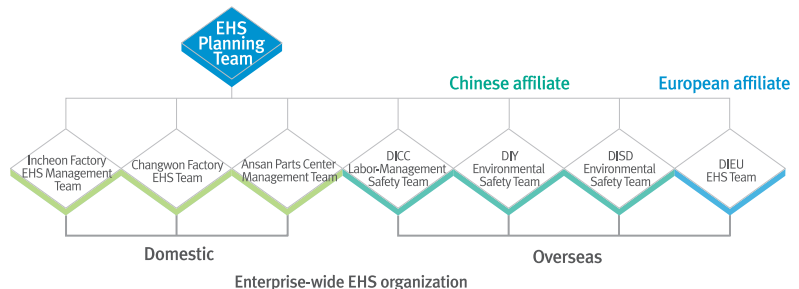
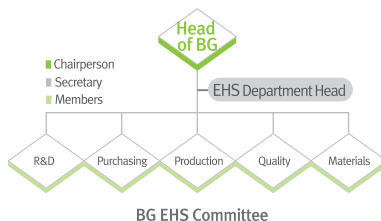
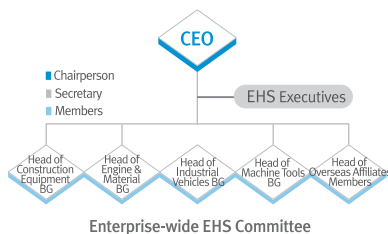
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Environmental Organization

[Environmental Committee] The enterprise-wide EHS Committee, comprised of the CEO and heads of BG, makes decisions on policies and approves goal related to EHS, and each BG discusses EHS protocols and monthly EHS goals vs. actual in a monthly BG EHS Committee meeting held by the head of BG.

[Enterprise-Wide EHS Organization] As our overseas plants are expanded and environmental issues across the globe are increasing, Doosan Infracore has installed an EHS planning team at the main office and installed EHS Management teams at each plant to manage the organization in a more systematic and effective method.



Environmental Management System

Response to Environmental Risks

By stipulating a response procedure for emergencies such as accidents related to all activities of the company (production, products and services), leakage, fire, or explosion caused by natural disasters, Doosan Infracore is working to minimize human and physical damage, and the resulting environmental impact. The environmental emergencies that are stipulated by the provisions include fire, explosion, malfunction of pollution control facilities, and leakage of various toxic substances, and they are classified into general and serious emergencies according to the scope, human and property damages they cause.

Meanwhile, by establishing a quick response system in case of emergencies, we have formed and operated a systematic organization with the participation of every employee of the workplaces to minimize the damage. We organized 40 area patrols in all. We are preventing accidents beforehand by identifying environmental emergencies likely to take place by region and conducting regular prevention drills. In case of an accident, we are taking thorough actions and investigate it to establish preventive measures to keep accidents from recurring.

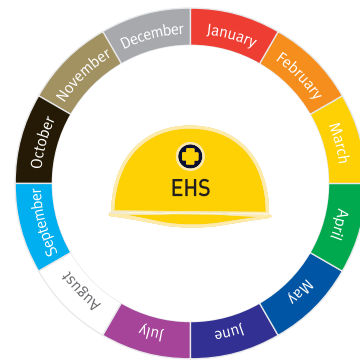
In an effort to prevent environmental accidents, we are also enforcing 'visual management,' a system that enables people to directly check the malfunction of various facilities and inspection results. In this system we use the color chart, the inspection logs and the management status board to directly check the management status at the site.

Emergency Drill

We organized our own fire-fighting squads, and are conducting emergency drills to minimize damage to human lives and properties due to fire, explosion, leaks and power outage. In 2008 we had a total of 27, thereby acquiring the ability to respond to emergencies.



Visual Management Color Table



Environmental Audit

By checking and evaluating the suitability and validity of the environmental management systems regarding environmental impacts in all areas, we are continuously improving and carrying out effective environmental management. As part of the program, we plan to audit the environmental management system every year, and organize an evaluation team to carry out internal audits for individual BGs and internal audit for the entire company, evaluation of compliance, and daily environmental patrols. We also select environmental management items for internal control and management and make sure that all departments conduct their own inspections.

By reflecting the internal audit and environmental monitoring results in the management review and registering them in the environmental monitoring log, we were able to improve a total of 447 nonconformities in areas such as the separate collection of waste, management of non-point sources, operation and management of environmental control facilities, management of environmental documents and regulations, operation of environmental management programs and training. A third-party assurance authority conducts a post management audit every year and a renewal evaluation once every 3 years to verify the suitability and validity of the environmental management system.

As a global corporation, we are working to improve the EHS management system, by developing a global audit program to advance our system at overseas factories and conducting annual EHS audits.



2008 post-management audit meeting



2008 post-management audit report

Internal Audit and Environmental Monitoring

Classification	Department in Charge	Auditee	Audit Cycle	Frequency	No. of Improvements
BG Internal Audit	Environmental officer at BG	All departments in BG	Once a year	Once	61
Enterprise-Wide Internal Audit	EHS team	All departments in workplace	Once a year	Once	25
Compliance Evaluation	EHS team	All departments in workplace	Once a year	Twice	361
Environmental Patrol	EHS team	All departments in workplace	Any time	Any time	
Internal Control	Internal control team	Applicable departments	Quarterly	3 times	-

External Audit

Classification	Department in Charge	Workplace	Audit Cycle	Auditee	Audit Result
Post-Management Audit	BSI	Incheon/Changwon factory	Once a year	All departments	No noncompliance

Environmental Management System

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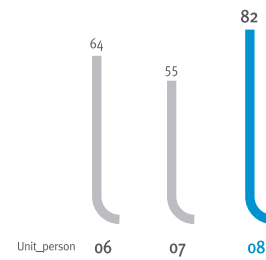
Environmental Education

To reinforce the environmental competence of employees necessary for enhanced environmental awareness and efficient operation of the environmental management system, we are offering training programs differentiated for different levels of duties. While we are also posting the monthly 『Environment Review』 internally to stimulate the employees' interest in environment, and raising their awareness of the importance of environment by providing training programs at individual worksites. We are also reinvigorating improvement activities by operating an environment improvement proposal system. In 2008, we increased our environmental competence through the following environmental education programs.

Environmental Education Program Status

Classification	Required Competency	Education Program
CEO	Leadership	Group EHS risk management
		Group EHS CEO Session
Manager	Knowledge	Special training on group environmental strategy
		Group environmental specialist training
		Group ISO 14001 auditor training
		New employee trainin
		ISO 14001 internal auditor training
		Environmental impact assessment training
		Sustainability management understanding training
		Sustainability management working-level training
		Environmental management strategy Workshop
		Statutory education for environmental engineers (outside the company)
		Education on response to climate change (outside the company)
		Environmental seminar (outside the company)
Employee	Skill	Introductory course for new employees
		General environmental education for engineers
		Emergency drill
		Environmental bulletin
Vendor	Knowledge	Environmental seminar (outside the company)

Qualifications of ISO 14001 Internal Auditors



Internal auditor training



Environmental impact assessment training



Environmental education for engineers

Environmental Costs and Benefits

In 2008 Doosan Infracore expended a total of KRW14 billion for investments in environmental facilities, e.g. improvement of coating facilities and water treatment facilities, and for eco-friendly factory projects and social contributions. We save KRW4.2 billion through diverse environmental management activities, such as reduction of raw materials and waste.

Criteria for Categorization of Environmental Costs and Evaluation Costs

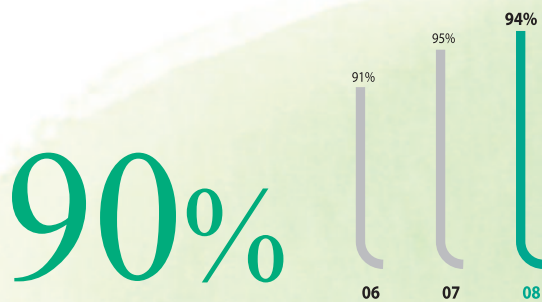
(in KRW1,000)

Classification	Activity Classification	Amount	Items	Amount
Environmental Cost 13,935,568	Pollutant management cost	4,300,680	Labor cost	540,066
			Outsourcing cost	314,400
			Power cost	1,446,543
			Self-measurement cost	46,469
			Repair and maintenance cost	357,503
			Materials cost	262,807
			Chemical cost	109,495
			Waste disposal cost	1,213,103
			Other training cost	10,294
	Investment cost	8,844,000	Reduction of foul odor and fugitive dust	2,100,000
			Reduction of THC in coating facilities	4,830,000
			Improvement of waste water and sewage facilities	1,207,000
			Reduction of NOx	707,000
	Environmental risk management cost	60,258	Building greenhouse gas inventory	60,000
			Fines	258
	Social environmental cost	1,200,630	Establishment of environmental management strategy and report publication	290,000
			Cost of corporate social responsibility	
			- Eco Friendly Factory initiative - One-company one-road clean management system - Contributions to and support of environmental organizations	910,630
Pollutant Management Cost 4,300,680	Cost savings from environmental activities)	4,215,995	Environmental management activities - Reduction of raw materials - Reduction of waste - Reduction of pollutants - Eco-friendly product development, etc.	4,215,995

Effort

Toward a world that is clean and clear~

Doosan Infracore is trying its utmost to develop clean production and green technology in an effort to fulfill its social responsibilities.

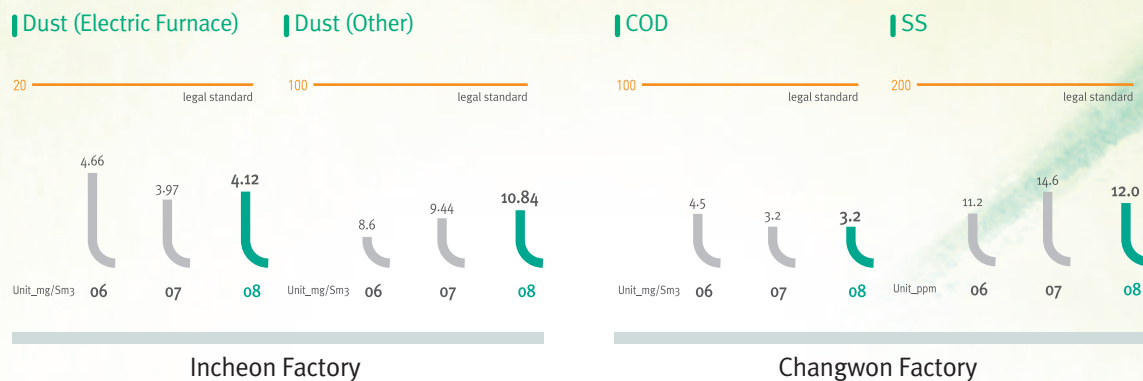


The Incheon factory is recycling more than 90% of its total waste (56,305 tons).

50% or more below the legal standards

Doosan Infracore installed and operates the best prevention facilities to minimize the occurrence of air pollutants in the production processes.

As a result, the concentration of the air pollutants in all facilities is at least 50% lower than the legal standard.





Environmental Performance and Activities

26	Environmental Impact and Performance
26	Resource and Water Use
26	Management of Pollutants
31	Management of Waste
32	Soil Management
33	Response to Climate Change
37	REACH Compliance
38	Development of Environment-Friendly Products
43	Environmental Impact Assessment
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44	Support of Local Small Businesses
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46	Safety and Health Activities
46	Safety and Health Management System
46	Safety Activities
47	Health Activities
49	Certification and Awards

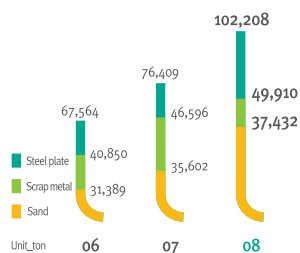
Environmental Impact and Performance

Resource and Water Use

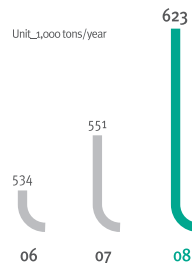
The main resources that Doosan Infracore uses are steel plates, scrap iron, and sand. Despite the recent increase in production and use of steel plates/scrap iron due to the increasing size of products, we are trying to reduce the need of steel plates per unit product by continuously reducing the weight of products and increasing yields. We are also reducing the use of sand by minimizing process defects, and reusing all of the processed sand as aggregate.

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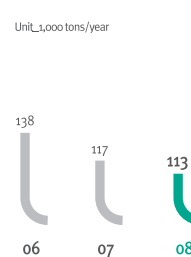
Resource Use
(Incheon Factory)



Water Use
(Incheon Factory)



Water Use
(Changwon Factory)



Management of Pollutants

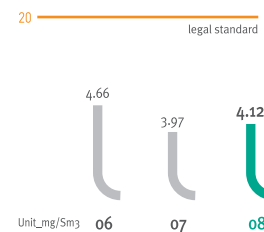
Doosan Infracore established stringent internal emissions standards, 50% or lower than the legal standards, and adopted the cutting-edge environmental technologies available to minimize the generation of pollutants.

Incheon Factory | + Air

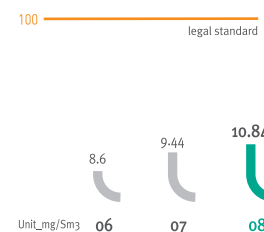
The air pollutants emitted by the production process include dust, THC, and offensive odor. To prevent the dust produced in the process of producing engine castings from being emitted, we make sure that the emitted pollutants are less than 50% of that stipulated by law as we installed and operate the best pollution control system. To reduce the amount of THC produced in the coating process, we have invested KRW5 billion and installed a THC reduction system based on a new technology (CCO: Concentration Catalysts Oxidation). CCO, which concentrates and incinerates the THC produced in the coating process, reduces over 50% more pollutants than the original pollution control system, i.e. A/C TOWER, and prevents the risks likely to be posed by the frequent change of activated carbon. Also, to prevent the inconvenience experienced by local residents due to the foul odor from the production process, the Incheon factory invested KRW14.6 billion over the past 5 years to install a new pollution control system, and introduced environment-friendly processes such as using water-soluble paints and changing cutting oil along with managerial improvements including 2S3R activities and visual management. We will continue to accommodate the opinions of local residents and engage in continuous improvement activities.

Emissions of Air Pollutants (Incheon Factory)

Dust (electric furnace)



Dust (other)

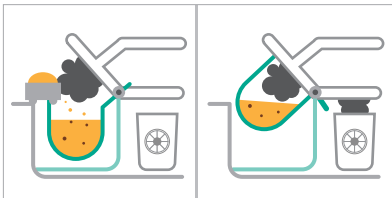


Eco- Friend, Doosan Infracore



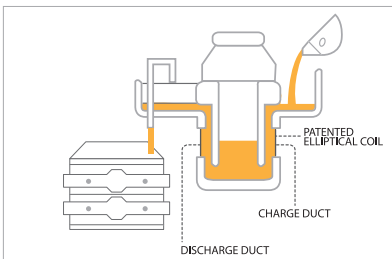
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► Examples of Air Pollutants Reduction



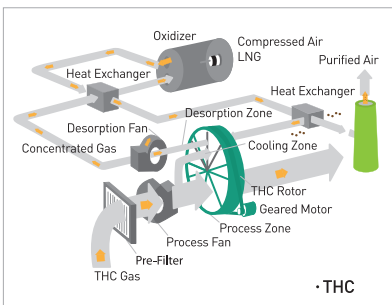
Reducing Pollutants by Improving HOOD

To resolve the structural problem of the existing HOOD in the process of scrap metal, when charging scrap metal or taking out molten scrap metal, the double capture type is now used as it can capture pollutants very well. In addition, to improve the efficiency of disposing of the captured pollutants, the existing prevention facility was replaced by a high-efficiency prevention facility.



Using Auto Pouring Machine to Reduce Pollutants

The auto pouring machine is installed for the manual pouring process to intensively capture pollutants and this reduces dust and odor in the factory. Also, the process automation reduces the risk of safety accidents likely to be caused by manual work.



Using Concentrated Catalytic Oxidation (CCO) to Reduce THC

We installed the concentrated catalytic oxidation (CCO) system to reduce the THC of the coating process by more than 50% as compared to the old system. Also, we use a heat exchanger to recover waste heat, thus saving energy costs..



Reducing Bad Odor with 2S3R

The 2S3R activities that all employees participate in led to a comfortable working environment and eliminated the sources of foul odor in the workplace as well as protecting workers.

*2S: Seiri (sorting), and seiton (straighten or set in order)

*3R: right quality, right quantity and right position

Environmental Impact and Performance

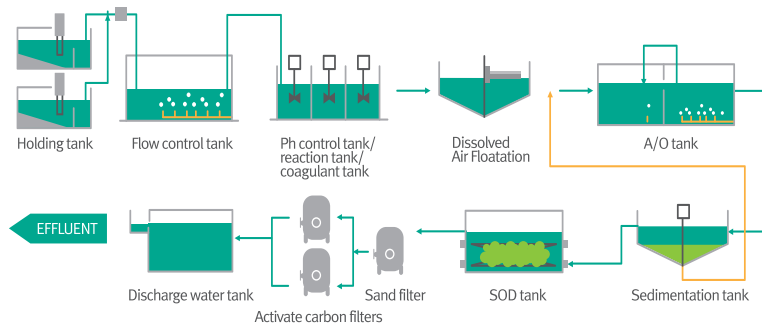
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I Incheon Factory | + Water

All the waste water produced from the production process is discharged after physical, chemical, and biological purification processes through the waste water treatment plant. By investing KRW5.3 billion from 2006 to 2008 to remodel and automate the waste water treatment plant, we are maintaining the pollutants at a level 20% lower than the legal requirement and preventing environmental accidents through the monitoring system. Especially, by installing an additional denitrification process (A/O), we were able to reduce more than 50% of the T-N discharge concentration.

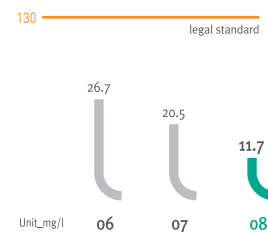
Furthermore, as we built the sewage pipeline, we were able to send the sewage, which was originally processed at a separate purifying tank, to the municipal sewage treatment plant, and thus reduce the emission of water pollutants.

Waste Water Treatment Process

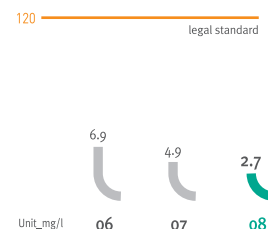


Emissions of Water Pollutants (Incheon Factory)

COD



SS



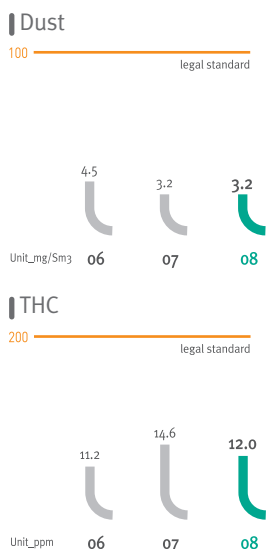
► Examples of Water Pollutants Reduction

Improving Waste Water Treatment Facilities

The new waste water treatment facility of Incheon factory, with the addition of the biological treatment process and T-N removal process, reduced pollutants 50% more than the old facility. As we also installed monitoring systems like CCTV as part of the centralized management system, now real-time environmental monitoring and prevention of environmental accidents are possible.



Emissions of Air Pollutants (Changwon Factory)



I Changwon Factory I

Air pollutants in Changwon factory go through the pollution control facilities and are emitted through 23 outlets in total. Waste water goes through the waste water treatment facility inside the workplace, and into a nearby river. Sewage goes to the sewage treatment plant.

+ Air

Air pollutants emitted by production processes include dust, THC and foul odor. To minimize the emission of THC and dust, generated by the coating process, into the air, we installed the best pollution control facilities. When raw materials or processed are changed, we conduct a prior environmental review to assess the impact on the environment, and minimize the environmental load.

We installed the best pollution control facilities and introduced advanced management systems including visual management. The level of pollutant emissions is 20% of the legal requirement.

► Examples of Air Pollutants Reduction



Reducing Pollutants in the Coating Facility

To reduce pollutants like THC and dust in the coating process we installed a high-efficiency secondary pollution control facility below the existing pollution control facility.



Reducing Pollutants from the Cleaning Facility

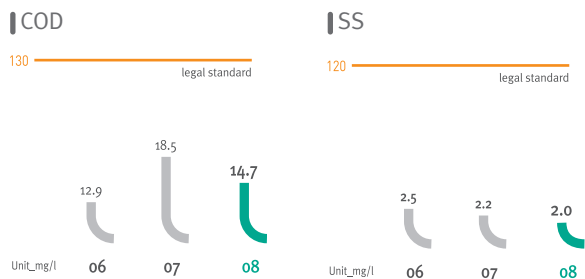
We prevented fugitive pollutants and increased the efficiency of capturing pollutants by changing the entire cleaning process into an enclosed type. To improve the processing efficiency of the captured pollutants, we installed a new high-efficiency pollution control facility at the end of the existing pollution control facility.

Environmental Impact and Performance

I Changwon Factory | + Water

All waste water generated in a workplace is physically and chemically treated and purified in the sewage treatment plant, and sent to the Deok-dong sewage treatment plant through the municipal sewage pipeline for intensive treatment, and then discharged into the south coast. The quality of the discharged water is maintained at a level 20% lower than the legal requirement. Also, as monitoring systems are installed at the sources of waste water, environmental accidents are prevented.

Emissions of Water Pollutants (Changwon Factory)

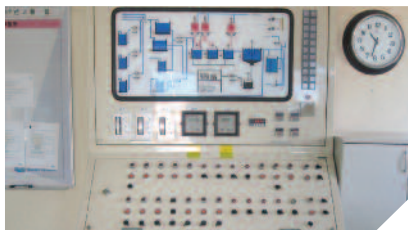


▶ Examples of Water Pollutants Reduction-Water Pollution Control System

Monitoring Systems

We installed a warning system at the 5 holding tanks in the middle to prevent environmental accidents, and installed the waste water treatment monitoring system to quickly respond to emergencies.

We also installed a monitoring system in 4 places where accidents are highly likely. We are working hard to prevent environmental accidents.



Waste Management

To minimize the emission of industrial waste by reducing the waste of resources and to increase the recycling of waste, we have set a waste reduction environmental goal and been working hard to accomplish this goal. Also, we periodically assayed the waste to ensure proper treatment, and evaluated the waste treatment vendors periodically every year. We are doing our best to ensure that the waste can be disposed of in accordance with relevant laws and regulations.

I Incheon Factory I

Waste produced at the Incheon factory includes specified waste like waste oil, waste paint, waste acid, and general waste like sulphuric acid, used plastics, waste-mold-sand, dust and waste activated carbon, and universal waste. Once generated, the waste is buried, incinerated, and recycled by licensed treatment vendors.

The total amount of waste produced at the Incheon factory is 56,303 tons and 90% is being recycled.

Recycling of Waste-Mold-Sand

More than 80% of the waste produced at the Incheon factory is waste-mold-sand. Waste-mold-sand, which is generated during the manufacture of casting iron products for engines, was originally processed at the metropolitan landfills, but now we are effectively using resources by recycling them as raw materials for cement.

Emissions of Waste at Incheon Factory

(Unit: ton)

Classification		2006	2007	2008
Incheon Factory	Ordinary workplace waste	46,679	50,530	53,540
	Specified waste	2,099	2,495	2,763
	Waste quantity	48,778	53,025	56,303
	Quantity recycled	44,205	50,193	52,776
	% of specified waste	4%	5%	5%
	% recycled	91%	95%	94%
	Waste basic unit (kg/KRW100 million)	507	562	556

Environmental Impact and Performance

I Changwon Factory I

The waste generated at the Changwon factory includes specified waste like waste oil and waste paint, and general waste like used plastics, dust, and waste activated carbon, and universal waste. Once generated, the waste is buried, incinerated, and recycled by licensed treatment vendors. The total quantity of waste produced at the Changwon factory is 715 tons, and 49% of it is recycled.

Use of the Waste Monitoring System

To minimize waste in the production process by reducing the waste of resources and to increase the recycling of waste, we have set waste reduction environmental goals and established waste separation standards and waste disposal procedures. We are providing training programs and publicizing these standards and procedures.

We are also preparing for possible environmental accidents such as oil leaks by installing CCTVs and monitoring areas exposed to the risk of environmental accidents such as waste storage and waste oil tanks.

Emissions of Waste at Changwon Factory

(Unit: ton)

Classification		2006	2007	2008
Changwon Factory	Ordinary workplace waste	476	677	715
	Specified waste	308	370	366
	Waste quantity	784	1,047	1,081
	Quantity recycled	309	498	533
	% of specified waste	39%	35%	34%
	% recycled	39%	48%	49%
	Waste basic unit (kg/KRW100 million)	146	169	175



Inspection of soil contamination around oil tanks

Soil Management

The Incheon factory of Doosan Infracore has an oil storage facility that may cause soil pollution. To prevent oil leaks, Doosan Infracore has reinforced its monitoring activities through visual management, and to prevent soil pollution, we are trying to expose the underground tanks and pipelines so that they are visible.

To check the leakage of facilities that may cause soil pollution, we are conducting soil pollution level tests under the provision of the Soil Environment Conservation Act.

The Changwon factory does not have any facilities that may cause soil pollution.

Soil Contamination Inspection

Date of Inspection	October 30, 2006	October 31, 2007	October 14, 2008
Inspection Agency	Korea Soil Environmental Research Center		
Inspection Item	BTEX	BTEX, TPH	BTEX, TPH
Inspection Result	Suitable	Suitable	ND
Remarks	Regular inspection (once/year)		

BTEX: Benzene, Toluene, Ethylbenzene, Xylene
TPH: Total Petroleum Hydrocarbon

Response to Climate Change

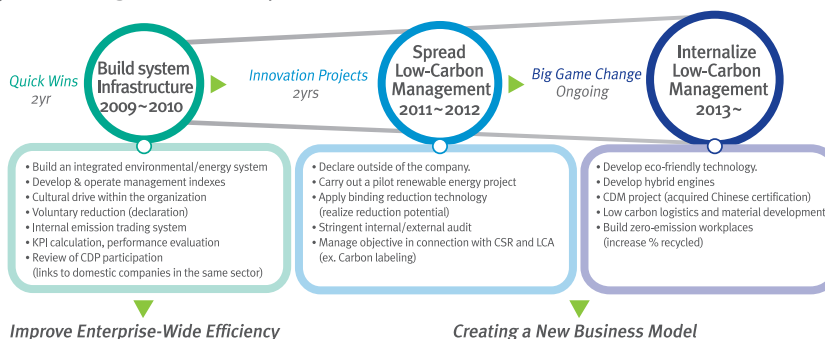
Doosan Infracore, as a corporation using natural resources such as energy and emitting greenhouse gases during management activities, must carry the role of and social responsibility for actively responding to various environmental issues caused by greenhouse gases. For these reasons, Doosan Infracore is carrying out activities to efficiently use energy, the valuable resource of humankind, and reduce the emission of CO₂ which causes climate change. In particular, as more greenhouse gases are produced during the use of products rather than during the production process, we are going to take the initiative in reducing the use resources and responding to climate change by providing customers with fuel-efficient products through research and development.

Building Compliant Systems

Doosan Infracore received consulting on climate change in 2008, and build the greenhouse gas inventory (2004~2006) compliant with international standards (IPCC guideline, GHG Protocol, etc.).

Also, we established a mid-to-long-term roadmap regarding the response to climate change. We are planning to maintain and manage the greenhouse gas inventory in 2009 to build the infrastructure for responding to climate change. From 2010 when regulatory measures are expected to take effect in Korea, we are planning to reinforce internal competence and improve operational efficiency across the organization through such voluntary activities as internal emission trading. Also, we will translate the plans into action from 2011 to 2013 in a bid to proactively respond to global restrictions expected to take effect starting in 2013, while we are planning to create a new business model for hybrid, new and renewable energy, etc.

Mid-to-Long-Term Roadmap



Environmental Impact and Performance

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Products

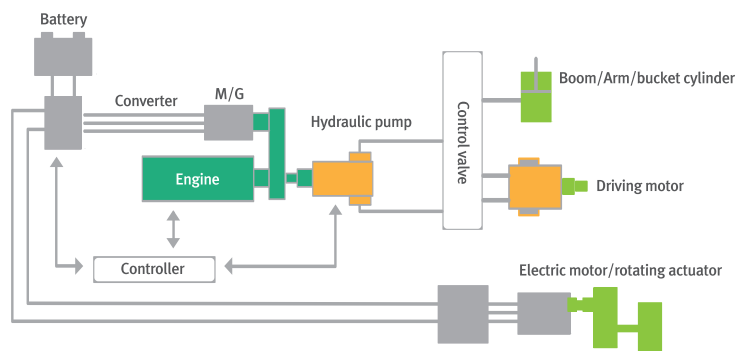
Development of Equipments Using Alternative Fuel

As a response to the volatility of oil prices caused by the exhaustion of fossil fuels and as a solution means of reducing CO₂ emissions, the main cause of global warming, Doosan Infracore has been conducting R&D activities to develop equipment that uses alternative fuel. As a result, the technical research on hybrid excavators and electric excavators is nearing completion.

• Hybrid Excavators

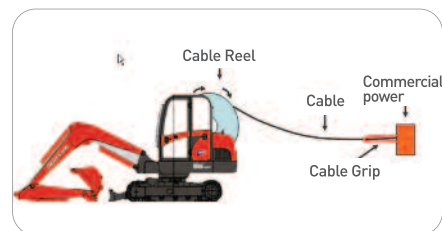
Hybrid excavators are future-oriented construction equipment that uses a diesel engine and normally stores remaining power to make up for the insufficient output of the engine when overloaded. Because hybrid excavators reduce the use of fossil fuels, maximize the energy efficiency, and contribute to responding to climate change by increasing fuel-efficiency and cutting exhaust gas emissions, advanced countries are racing to develop it. Starting the development of hybrid excavators at the end of 2007, Doosan Infracore has completed the design, production, and performance tests of the motor, power converter, and energy storage device based on the operating mode in 2008. We installed it in a vehicle and we are currently testing the operations and fuel efficiency of the hybrid power system. Also, we are searching for a method to raise the level of endurance and reliability to that of a mass-produced vehicle.

Conceptual Map of Hybrid Excavators



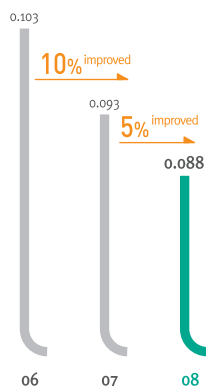
• Electric Excavators

The engine, which supplies to the excavator, is electrified in the electric excavator. As the electric excavator can reduce CO₂ emissions generated by the use of fossil fuel, and makes little noise and vibration, it is capable of green operations indoors. When the oil prices are high, it cost less for customer to operate than excavators with an ordinary engine.



Electric motor

Improved Fuel Efficiency Resulting from Development of New Types of Machines



Improving the Fuel Efficiency of Equipments

In an efforts to develop equipments running on alternative energies of the future, and to respond to climate change, Doosan Infracore has been concentrating its energies on improving the fuel efficiency of equipments and thus reduce dependency on fossil fuel. As a result, we developed new hydraulic systems, improved the efficiency of hydraulic parts and the cooling performance, and reduced the weight of the front.

• Improving the Fuel Efficiency of Excavators and Wheel Loaders

Each time a new machine is released, Doosan Infracore improved fuel efficiency by 5~10% by developing high-efficiency engines and applying various energy-saving technologies. In addition, to respond to the exhaust gas regulation (tier-4) after 2011, we are improving fuel efficiency by developing a cutting-edge electronic hydraulic system and improving the efficiency of key hydraulic parts. Besides, we developed diverse working modes fit for frontline work sites to save energy. By improving the fuel efficiency of equipments as we did, we are reducing consumption of fossil fuel and CO₂ emissions, thereby contributing to responding to climate change.

Environmental Impact and Performance

Operations

Energy Use

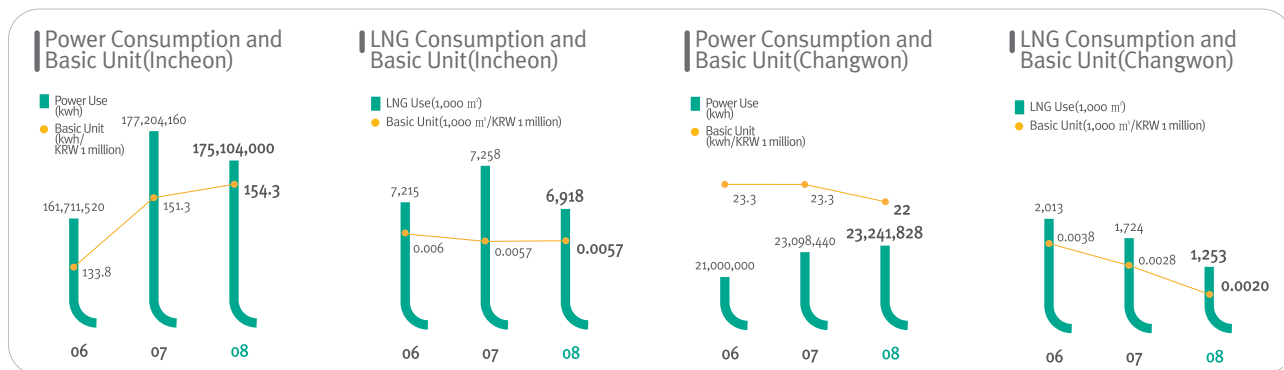
Due to the characteristics of processes, more than 95% of Doosan Infracore's energy comes from electricity and LNG, and in the greenhouse gas emissions sector, indirect emissions have been the most because of electricity and LNG.

• Incheon Factory Energy Use and Basic Unit

In Incheon factory both power and LNG consumption has been declining, but the basic unit of electric power has been rising. The basic unit of power has been increasing because production has declined due to the global recession, and electric power is used more than LNG.

• Changwon Factory Energy Use and Basic Unit

In Changwon factory both power and LNG use are decreasing, and the basic units are also declining.



• Energy-Saving Activities

- Reducing Greenhouse Gases by Installing High-efficiency Boilers

To save energy and reduce energy needed to run the factories, Doosan Infracore replaced 3 out of 9 its water tube boilers with high-efficiency boilers in 2008, and will replace 4 more by 2010. The high-efficiency boilers improved the energy efficiency, thereby reducing greenhouse gases.

- Working-Level Energy Council

Doosan Infracore holds the working-level energy council every quarter to reinvigorate energy-saving activities across the organization and build an organized energy management system. At the working-level energy council, all energy officials from across the or-



High-efficiency boiler

Voluntary Agreement (VA) for Energy-Saving and Reduction of Greenhouse Gas Emissions

Workplace	Incheon Factory	Changwon Factory
When	September 17, 2008	November 2, 2007
Local Government	Incheon	Changwon
Description	Reducing energy use by more than 5% over the 5 years after the conclusion of the agreement	Reducing the greenhouse gas emissions per sales by more than 10% until 2011 with 2007 serving as the baseline

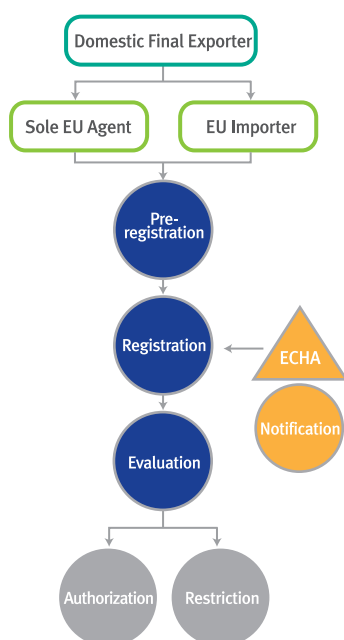
ganization gather together to decide on matters regarding the rational use of energy, formulate energy management plans, and establish energy reduction goals, and discuss how to translate the plans into action, and share results. Thanks to this council, we lowered the coating and production process, thereby cutting down the cost of fuel used to maintain the temperature, and reduced the waiting time within the production processes. The energy council is working to minimize energy loss.

- Voluntary Agreement

Doosan Infracore entered into a voluntary agreement (VA) with the government for energy saving and reduction of greenhouse gas emissions, and engages in voluntary energy-saving activities. We are cooperating closely with the government in the national energy-saving drive and effort to respond to climate change.

REACH Compliance

REACH Compliance Procedure



In addition, Doosan Infracore has been monitoring regulations on harmful chemical substances such as RoHS, WEEE, and EuP. To respond to REACH (Registration, Evaluation, Authorization and restriction of Chemicals), the 2008 new European regulation on chemicals, we have added the Substance Inventory (list of chemicals/components) for each product to the original MSDS (Material Safety Data Sheet) and created the DB of all chemicals making up construction equipment such as excavators and loaders.

To create the DB, we received information from the domestic and overseas parts suppliers, and built data covering both the suppliers and manufacturers. On December 1, 2008 we finished our first response to REACH: we pre-registered 70 chemical substances subject to REACH registration, elected as of the deadline for pre-registration, independently through our overseas affiliate, DIEU.

The selection of chemicals subject to REACH registration was conducted under the co-operation among the parts suppliers and the Construction Equipment BG, and in cases where pre-registration was difficult, we provided unwavering support through the overseas affiliates of Doosan Infracore. The resulting Substance Inventory is databased in such a way as to allow us to check Tonnage by component chemical, Component chemicals by part, Chemical suppliers List of chemicals subject to pre-registration when the European Chemicals Agency or other regulations require information on toxic chemicals. Accordingly, we can respond immediately by locating the parts containing harmful chemical substances from the product design stage.

Furthermore, through the establishment of the SCEM-based green procurement system planned to be implemented in 2009, we will be able to effectively manage harmful substances and chemicals in products within the supply chain.

Environmental Impact and Performance

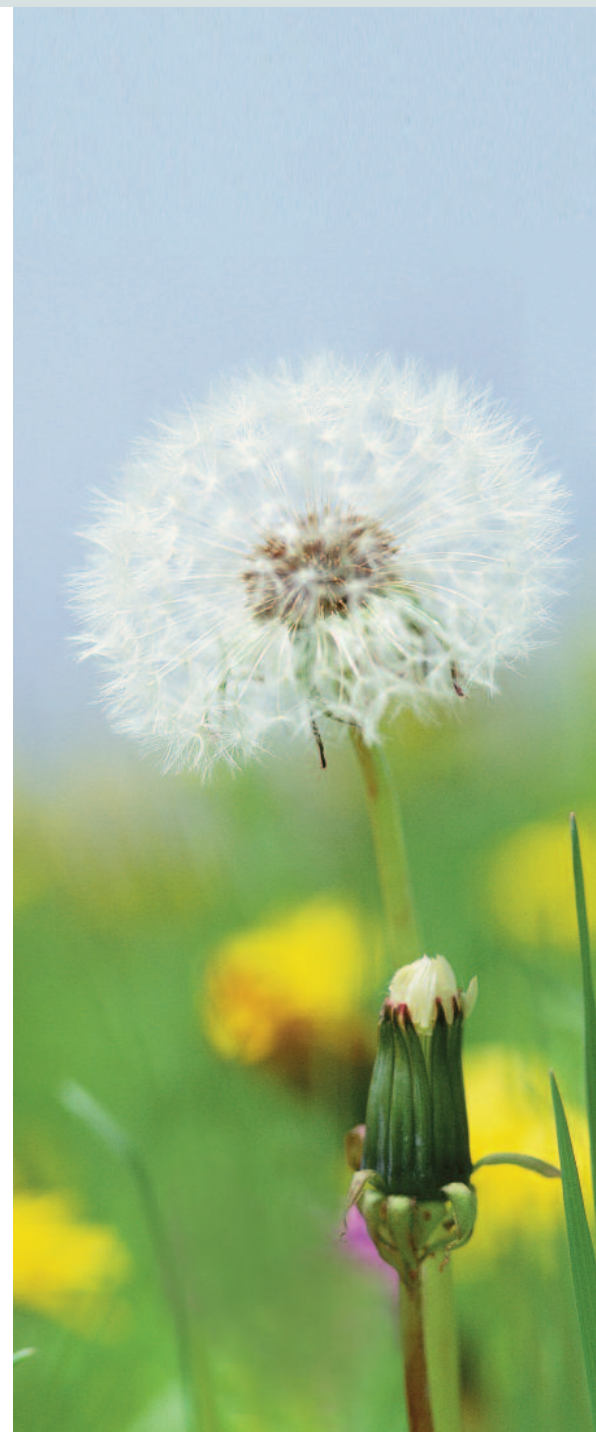
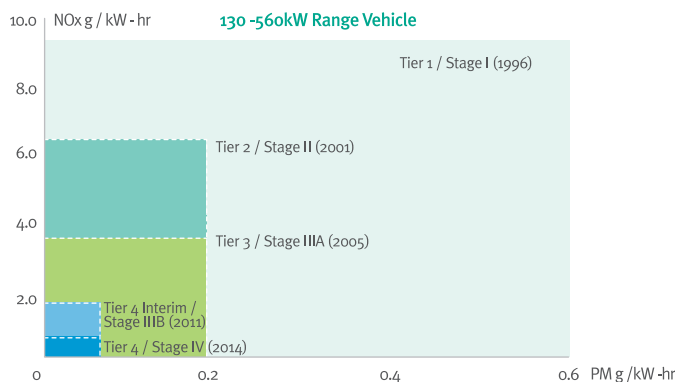
Eco-friendly Product Development

As the materiality test showed that environment-friendly products are an important issue, the development of eco-friendly products is a very important environmental activity in respect of the efficient use of resources and reduction of environmental impact. Thus, Doosan Infracore is doing its best to ultimately preserve the earth's environment through the development of eco-friendly products.

Development of Equipments for Reducing Exhaust Gas Emissions

As the regulations on responses to global warming caused by greenhouse gases such as CO₂, which are produced from the use of fossil fuel, are being reinforced worldwide, Doosan Infracore is working to reduce not only CO₂ but also gasses emitted from vehicles using diesel engines such as nitrogen oxides (NOx) or particulate matters (PM). To respond to the step-by-step regulations that have been reinforced mainly in advanced countries since the late 1990s, Doosan Infracore has developed suitable equipment for every step in an attempt to join the effort of the international society to improve the earth's environment. Starting from the development of engines using mechanical injection pumps and turbo intercoolers in 1996, we have developed the electronic injection control engine in 2001, the common-rail high-pressure injection engine in 2005, and we are currently in the process of developing the electronic common-rail high-pressure injection engine, cooled EGR (Exhaust Gas Recirculation), PM Filter, VGT (Variable Geometry Turbocharger), SCR (Selective Catalytic Reduction), and high-efficiency air cleaner application technology in preparation for the Tier 4 Interim in 2011.

Exhaust Regulation by Stage



Life-Extending Product Design

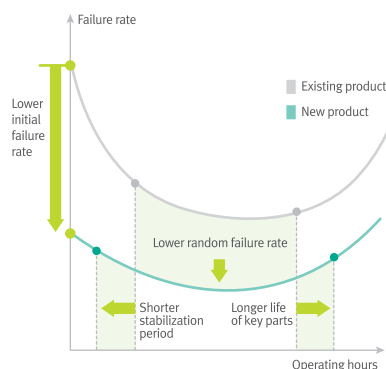
Doosan Infracore is trying to develop equipments that can reduce industrial waste and maximize the economic benefits of customers by continuously increasing the application of recyclable materials to the components and extending the life of the equipments.

• Reliability Growth Process

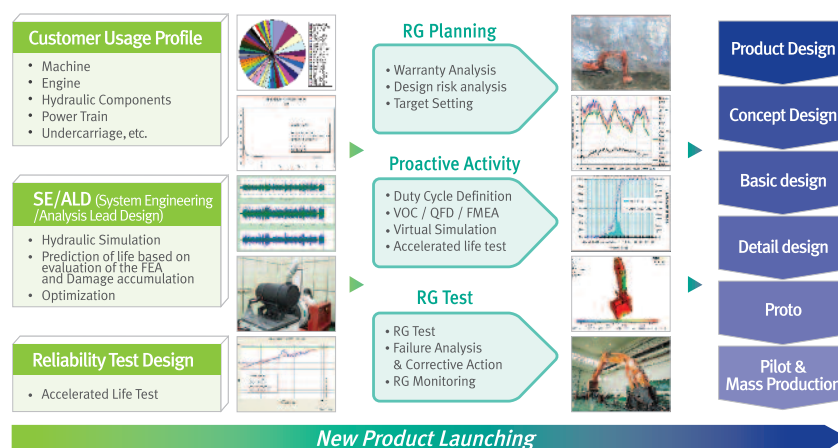
RG (Reliability Growth) means improving the reliability of products throughout the processes, i.e. product planning, development, design change and manufacturing, and reducing failures and damage, and thus ultimately extending the life of products. As illustrated in the following figure, RG will reduce the initial stabilization period, reducing random failures, and extend the life of key parts and radically cut down industrial waste.

To meet customer needs for high-reliability products, we will apply the Corrective action management technique that analyzes design vulnerabilities and potential failure in the initial products development stage to develop the Proactive Risk Reduction technology capable of radically reducing them, and databases the life model and duty cycle of the parts to predict their life in advance and systematically improve and verify the problems likely to occur in the Proto testing stage. As a result, we are extending the life of products.

Using the RG Process to Extend Life



RG Process



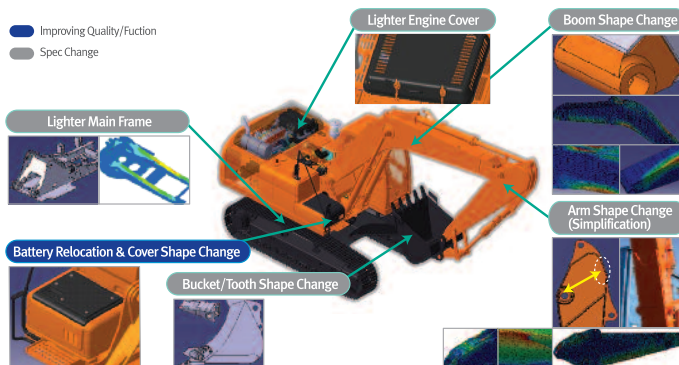
Environmental Impact and Performance

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Reduction of the Weight of Steel Plates Based on Greater Yields and Designs Saving Raw Materials

Starting from November 2006, we have strived to minimize the input of raw materials and to reduce scrap metal waste by means of yield-improving designs, and we have developed the prototype in October, 2007, and mass production began in May, 2008. As a result, we were able to make the front (boom, arm and bucket) 136kg lighter (6% lighter, steel plate yield 2% greater on average), and the frame 90kg lighter (steel plate yield 10% greater) from the Frame. Furthermore, along with the reduction of raw materials used, we were able to improve the performance and fuel-efficiency of the equipment, and reduce the fuel costs for customers and the cost of waste material disposal.

An Example of Steel Plate Yield Reduction



Developing Environment-Friendly Antifreeze

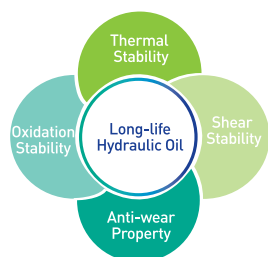
Most of the antifreeze currently used to cool automobiles and engines in Korea is the EG (Ethylene Glycol) Type. EG-Type antifreeze is cheap, but toxic. So it is reported to be harmful to humans. Accordingly, Doosan Infracore is planning to develop PG (Propylene Glycol)-type antifreeze that is non-toxic and lasts twice as long by 2009. Meanwhile, Doosan Infracore is going to develop vegetable antifreeze that is not harmful to humans and can be naturally degraded through continuous technology development jointly with vendors.

Development of Equipment Using Bio-Diesel

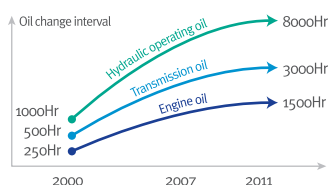
In advanced countries like the US and Europe, vegetable fuel represented by bio-ethanol and bio-diesel is currently being commercialized, and the development of bio-diesel using animal fat such as waste oil is in full swing to reduce environmental waste. From July, 2000, the Ministry of Education, Science and Technology and the Ministry of Environment embarked on the development of bio-diesel using waste oil. Focusing on the



Long-life oil development technology



Long-life oil development roadmap



Name	PM	NMHC+NOx
Regulation	0.4	4.7
Emissions of Our Products	0.2	3.8
Reduction Against Regulation	50%	19%

development of environment-friendly heavy construction equipment, Doosan Infracore is now manufacturing products that can use 5% of bio-diesel (BD05), and planning to develop products that can use up to 30% of bio-diesel (BD30).

Developing Long-Life Oil

We are continuously making an effort to extend the life of oil: i.e. we are trying to prevent the generation of environmental waste and lower the maintenance cost of customers by extending the change intervals of hydraulic oil, decelerator oil, transmission oil and engine oil used in heavy construction equipments.

• Long-Life Oil

When it comes to hydraulic oil, thermal stability, shear stability, oxidation stability, and anti-wear property were drastically improved. The change interval, which was 1,000 hours in 2000, was extended to 4,000 hours in 2007, and we are planning to lengthen it to 8,000 hours in 2011. Besides, we are in the process of developing technology for drastically increasing the change interval of engine oil as well as gear oil, including decelerator oil and transmission oil more than 5 times.

Mineral hydraulic oil used for the hydraulic system of an excavator using biodegradable oil has a great environmental impact on the rivers, ocean and underground water when it is changed or leaks. Right now in Europe, an increasing number of workplaces sensitive to environmental pollution like logging areas must use biodegradable hydraulic oil that can be naturally degraded when leaked. Accordingly, Doosan Infracore developed biodegradable hydraulic oil that can be naturally degraded when exposed to air in place of mineral hydraulic oil, and finished the in-vehicle test in 2007, and plans to commercialize it from 2009.

Developing 7/9-ton Tier-3 Engine-Type Forklifts

To respond to the EPA Tier-3 and EURO Stage-3 exhaust gas regulation that went to effect in 2008, we developed Tier-3 certified vehicles for 1-ton, 2/3-ton and 11-ton forklifts in 2007, and acquired the Tier-3 certification for all engines by developing 7/9-ton Tier-3 engine-type forklifts this year. When it comes to 7/9-ton forklifts, we introduced electronically controlled engines using the Common Rail Direction Fuel Injection System to control high-pressure injection and injection timing, thereby reducing particulate matters (PM) and nitrogen oxide (NOx). Also, Doosan Infracore applied the Charged Air Cooler to lower the temperature of machine tools flowing into the cylinder, and as a result we reduced NOx emissions in addition. Accordingly, PM and NMHC+NOx emissions are 50% and 19% lower the legal standard respectively.

Environmental Impact and Performance

Using the Electrolytic Galvanized Steel Sheet as Mounted Plate in the Cabinet of Machine Tools

The cabinet refers to the box holding the parts used for the electronic controller of machine tools. Existing cabinet is made of steel sheets painted with oil-based paint. In case corrosion occurs and paint is peeled off, fugitive dust will take place, thus adversely affecting the air quality. Doosan Infracore not only improved the eco-friendliness by using the electrolytic galvanized steel sheet as mounted plate in the cabinet of Machine Tools, but also saving time and money by omitting the coating process.

EGI(Electrolytic Galvanized Iron)

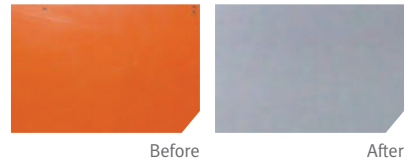
EGI is a product whose corrosion resistance is improved by using electrolysis to add galvanized coating to the surface of the cold-rolled steel sheet or hot-rolled steel sheet. In general, as it has less coating than the Hot Dipped Galvanized steel sheet, and its coating is more uniform and smoother, the coating is performed at normal temperature, and the material properties of the original sheet can be maintained. Accordingly, it is possible to choose from a wide variety of materials and excellent in processibility.

Euro4 Engine Development

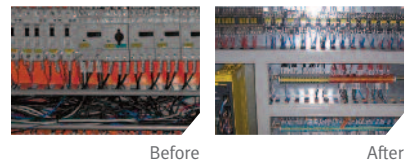
Regulations controlling exhaust gas emissions from diesel engines is getting tougher across the globe. For Nitrogen oxide (NOx) and particulate matters (PM), major emissions of diesel engines are the major causes of air pollution, and are very harmful to humans. Doosan Infracore has continued R&D to reduce diesel engine exhaust gases beginning with Euro1 engines up to now. In particular, with regard to Euro4, engine technologies, such as turbo charged cooling, use of 4 valves, electronically controlled high-pressure fuel injector, and EGR(Exhaust Gas Recirculation), alone are not enough to comply with the regulation, and post processing devices like SCR (Selective Catalyst Reduction) or DPF(Diesel Particulate Filter) must be used to reduce exhaust gases. Accordingly, EGR can deal with nitrogen oxide, while DPF can respond to particulate matter; also engine technology can be used to address particulate matter, while SCR can be used to take care of nitrogen oxide. Either of these two methods must be selected. Between these two methods, Doosan Infracore chose the SCR method, because it has excellent fuel efficiency and is applicable to Euro5, and decided to develop Euro4-compliant engines. To develop the SCR system, Doosan Infracore evaluated not only the temperature of the exhaust and the catalyst(front and back) conversion efficiency for each operating condition on a test bench, but also the in-vehicle testing.

The fuel efficiencies of two types of vehicles were compared, one with the Doosan Infracore Euro3 engine, and the other with the SCR system meeting the Euro4 emissions regulation. The result showed that the SCR fuel efficiency was 5~11% higher than the Euro3 depending on the engine type. Doosan Infracore will continue working to reduce exhaust gases by utilizing the SCR System and by supplementing the combustion system and the injection system when developing the Euro5 engine with the goal of realizing high output and fuel efficiency

Comparison Before and After Changing the Material of Mounted Plate in the Cabinet



Comparison Before and After the Use of Mounted Plate in the Cabinet



DL06S



DL08S



Tier-3 Engine Development

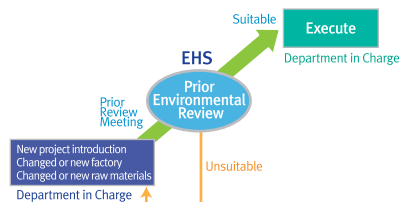
When it comes to Tier-3 exhaust gas emissions currently applied in the US and Europe, existing turbo-charged cooling and mechanical fuel injection systems alone cannot satisfy the regulation. Accordingly, the common rail system, an electronically controlled high-pressure fuel injector, is used. To maximize the high-pressure fuel injection effect, we have reduced the nozzle diameter, placed 4 valves on the cylinder head, optimized the piston combustion chamber, and applied advanced ECU software programming technology. In particular, to effectively reduce nitrogen oxide generated during ideal combustion without hurting fuel efficiency, we developed the camshaft with a 2-tier valve lift. It facilitates the application of the Internal EGR System which allows the exhaust gas to recirculate through the intake by making sure that the intake valve opens at the appropriate time during the exhaust stroke. If the Tier-4 engine is developed in the future, we are planning to utilize new technologies, such as the External Cooled EGR, Variable Geometry Turbocharger and Diesel Particulate Filter, based on combustion optimization technology and exhaust gas reduction technology that we accumulated during the development of the Tier-3 engine. This can potentially be supplemented by new technologies in combustion system and injection system.



Developing the US2007 Gas Engine (for Exports to North America)

To respond to stricter vehicle exhaust regulation in the US, we succeeded in developing the gas engine for vehicles in compliance with the US2007 exhaust regulation. This high efficiency engine is based on the lean burn technology and the oxidation catalyst post processing technology. We also applied advanced parts technology. The ultimate goal of the lean burn engine is to reduce exhaust gases and improve fuel efficiency by improving the efficiency of combustion without reducing engine performance. Doosan Infracore is now developing a gas engine to comply with the US2010 exhaust regulation which stipulates that nitrogen oxide be reduced by 83% as compared to US2007.

Environmental Impact Assessment



If a new process needs to be introduced or a process needs to be changed, Doosan Infracore tries to reduce pollutants and eliminate environmental risks by conducting an advance risk assessment and a prior environmental review for related equipments.

The environmental impact assessment is divided into the regular assessment, which is conducted every three years for all processes, and the irregular assessment, which is conducted when a new project is initiated, or a process is changed, a new process is introduced, and a process is abolished, and when raw materials are changed or new raw materials are introduced.

Environmental Activities



One-company one-road clean management system



Cleaning at the quay



Ramsar Convention supporters



Corporate mentoring

Preservation of the Environment of Local Communities

I Incheon Factory I

To reduce the fugitive dust in the roads around the company where there is heavy traffic of large trucks, Incheon factory entered into the one-company one-road clean management agreement with Incheon City, and joined hands with Hyundai Steel and Dongkuk Steel Mill to clean the 21km-long roads including Jungbongro in Songhyeon-dong, Jung-gu using the vacuum car and the vacuum-type sprinkler truck. Also, we chose the Manseok quay in the vicinity back in 1995 for the one-company one-quay cleaning campaign. And our employees have been cleaning the quay. Besides, we are taking an active part in the project to improve the appearance of the factory district in Dong-gu, which has been notorious for its undesirable looks, in accordance with the Eco-friendly Factory Promotion initiative of Incheon City and Dong-gu district office. We are working hard to improve the environment of factories and local communities

I Changwon Factory I

Changwon factory participates in the cleaning activity of the roads in the vicinity of the company and the one-company one-mountain-and river cleaning campaign for the sake of environmental protection. All employees clean up the road in front of the company, Mt. Bulmo and the Namsan River on a quarterly basis. Besides, employees of Changwon factory served as supporters for the Thai delegation at the 10th Ramsar Convention held in Changwon in 2008.

Support for Local Small Businesses

Doosan Infracore is supporting local small businesses by providing environmental technology and information. As part of this support, we are providing small businesses, which have poor environmental technology, with environmental technology and legal advice, and we are providing technical assistance and reinforcing their competence in environmental pollution prevention technology through advance inspections.

Furthermore, by participating in the large, medium-sized and small green partnership projects sponsored by the Ministry of Knowledge Economy and the Korea National Cleaner Production Center, in 2009, we are planning to support vendors in building environmental management systems and environmental management diagnosis of their processes.

Environmental Communication

Since 2005, Doosan Infracore, as the local president of the Incheon Environmental Volunteer Association, has been carrying out various projects such as environmental conservation of local communities, support for the environmental management of local small businesses, and environmental monitoring. Along with these activities, through our homepage, web-magazines, and annual reports, Doosan Infracore is trying to transparently disclose a variety of information on the environment. In particular, for efficient communication with internal and external stakeholders of Doosan Infracore including employees, customers, local communities, and vendors, we have published the first environmental management report in 2009 describing the environmental performances and activities of Doosan Infracore.

Environmental and Social Activities

A helping Hand in earthquake-Stricken Sichuan Province, China

When Sichuan Province, China was hit by an earthquake in May 2008, Doosan Infracore was the first foreign corporation to take part in the relief with its local subsidiary, DICC, playing the central role. For quick and practical relief work, Doosan Infracore, sales agents and customers joined hands. In other words, customers directly participated in the relief work, and the sales agents provided every support they could muster, and the company picked up the bill. At the time Doosan Infracore took the lead in helping the victims of the earthquake. The company sent a total of 120 excavators to the relief sites, and delivered CNY6 million that the company raised for donation, CNY4 million in equipment, such as excavators, and CNY220,000, raised by the employees, to the Chinese government through Charity Federation in Yantai City, Shandong Province, China, and fully co-operated in tearing down buildings and relocating the residents afterwards.



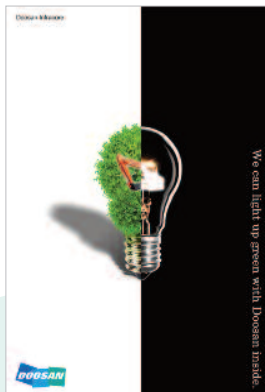
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Green Marketing Contest for Chinese University Students

To get the Chinese to reach a consensus on environmental issues and identify innovative ideas of university students and outstanding talent, Doosan Infracore, as an environment-friendly corporation, held the 'Doosan University Green Marketing Contest.' We joined forces with the Chinese Educational Bulletin of the Chinese Board of Education China Education Daily of the State Education Commission to host this contents in which students of 150 universities in 20 regions including Beijing, Shanghai and Guang Zhou participated. This contest was hosted to further increase the interest of the Chinese in environment, which was enhanced by Green Olympics, one of the three marketing concepts of the 2008 Beijing Olympics. To highlight the eco-friendly image of Doosan Group, we chose 'Green Doosan' as the theme, and invited university students to enter their works in one of the four categories: advertising design, photographs/video, thesis, and music. As a result of the public invitation from September 1 to October 26, 2008, 512 high-caliber works full of fresh creative ideas that integrated the traditional Chinese landscape painting and Doosan excavators to emphasize the eco-friendliness of Doosan, or that presented a new concept of 'green heavy industry' were submitted, and 24 finalists received awards. The award ceremony was held in the conference hall of Kunlun Hotel in Beijing on October 31, 2008. "Serious and sound opinions were presented: e.g. instead of the negative and passive attitude toward environmental issues, corporations and society should be proactively respond to them with a sense of responsibility," said Mr. Lee Dong-Hun, managing director of the strategy team, in charge of the contest. "It was a valuable opportunity to learn that the sense of responsibility on the part of Chinese university students about environment and society has matured all the more." The company is planning to utilize the award-winning works in establishing the future direction of corporate growth, and engaging in various social services. We are also thinking of providing an opportunity to keep in touch with university students by not only hosting contents to share in their thoughts, but also systematically supporting cultural activities and social services.



Green marketing gold prize winner



Green marketing bronze prize winner



Safety and Health Activities

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Safety and Health Management System

To reinvigorate autonomous safety and health activities, and effectively perform safety and health management activities, such as compliance with relevant laws and regulations, Doosan Infracore acquired and has been enforcing OHSAS/KOSHA 18001, domestic and overseas safety and health management systems respectively, in 2005.

Safety Activities

2008 Industrial Safety Management Grand Prize

Doosan Infracore, in recognition for its exemplary operation of the safety and health management system, received the 2008 industrial safety management grand prize awarded by media organizations.

Gold Award for Excellence in Win-Win Partnership Between the Parent Company and Vendors

Also in 2007, in recognition for its contribution to the prevention of industrial accidents and health improvement through the win-win partnership between the parent company and vendors, as exemplified by building a safety and health management system for vendors, providing safety and health education, and supporting safety and health technology, Doosan Infracore won the Gold Prize at the parent company & vendor partnership contest hosted by the Ministry of Labor.

Process Safety Management System

With the appearance of large complicated production equipment, the risk of major industrial accidents caused by fire, explosion, or leakage of hazardous materials has been on the rise. Accordingly, Doosan Infracore has adopted the Process Safety Management system (PSM) since 1996, and maintained a P level, the highest level certified by the Ministry of Labor, till now by operating a system to prevent major industrial accidents that may cause damage to not only workers in workshops but also local residents and the environment.



2008 industrial safety management grand prize



Gold award for excellence in win-win partnership between the parent company and vendors

1	Periodical supplementation and systematic management of safety data of factories	7	Practical PSM training for workers (employees)
2	Building the factory risk evaluation system and post-management	8	Safety inspection of harmful and dangerous equipments prior to operation (trial run)
3	Supplementation and observance of safe operating procedure	9	Observance of change management procedure in case of equipment change
4	Efficient management of equipments according to their risk grades	10	Objective self-inspection and follow-up actions
5	Observance of work permission procedure	11	Identification of accurate causes of accidents and prevention of recurrence
6	Reflecting the level of safety management when selecting vendors	12	Preparation of contingency plans and periodical training

Hopeful Partner, Doosan Infracore

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Activities to prevent musculoskeletal diseases



100 Accident-Free Days Movement

We have been carrying out the 100 accident-free days movement with the participation of all the employees and vendors since 2006, and are working to eradicate industrial accidents and promote a bright and dynamic atmosphere centered on people.

To prevent musculoskeletal diseases, the labor and the management try to find and improve processes likely to lead to musculoskeletal diseases on a monthly basis, and we operate physical therapy rooms, exercise therapy rooms and fitness centers to ensure early treatment and prevention of musculoskeletal diseases.

Activities to Prevent Musculoskeletal Diseases

To prevent musculoskeletal diseases, the labor and management are working together each month to discover processes affecting the musculoskeletal system and engage in improvement activities, and we are operating in-house physical therapy rooms, exercise therapy rooms and fitness centers to accelerate the healing of patients suffering musculoskeletal diseases and promote their prevention.

Safety and Health Training

To promote all employees and vendors' awareness of safety, we are providing various training programs, including regular safety training, supervisor safety training, vendor safety training, special safety training, forklift operator safety training, job changer safety training, safety and health system training, and PSM training.

Affiliated Hospitals

Classification	Incheon	Changwon	Ansan
	Affiliated-hospital	Dispensary	Dispensary
Manpower	1 doctor, 2 nurses, 1 medical technologist, 1 radiologist, 1 physical therapist, 2 nurse's aids, 1 administrator	1 doctor, 2 nurses	1 nurse (2 doctor visits a month)
Affiliated Facilities	clinic, physical therapy room, exercise therapy room, pathology room, radiology room	clinic, physical therapy room, exercise therapy room	clinic

Health Activities

Affiliated Hospitals

We provide regular checkups and medical care in regard to various diseases for Doosan Infracore's employees, their families, and the workers of the vendors. If they are found to have any disease, appropriate measures are taken and their prognosis is closely managed so that the works can stay healthy and improve their health.

Key Health Activities

Classification	Description
On-site service	Checking the first-aid kits at the sites and replenishing supplies (nurse visits: once a month)
Smoking cessation clinic	Removing disease factors due to smoking and promoting comfortable working conditions (every Wednesday)
Influenza vaccination	Prevention of influenza, an acute respiratory disease (employees, families, vendors)
Disinfection	Done by disinfection specialists twice a month for prevention of infectious diseases (4 times in summer)

Safety and Health Activities

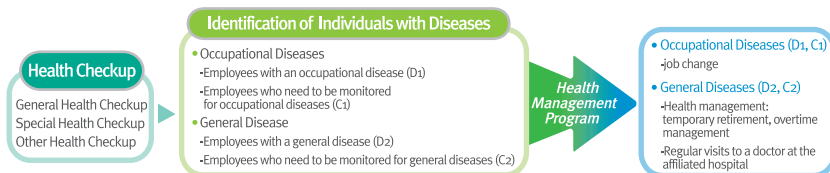
Health Management Programs

We are conducting physical exams for the health care of employees, and if employees are found by the health checkup to have occupational (D1, C1) or general diseases (D2, C2), the progress of the diseases and their health status will be monitored periodically, and we make sure that their diseases are cured and managed in an early stage.

Health Checkup

Classification	Description
General health checkup	Once a year for all employees
Special health checkup	More than once a year for employees engaged in harmful jobs
Comprehensive health checkup	Every two years for employees and their spouses who are 40 years of age and older, and every year for those who are 50 years of age and older

Health Management Process



Measurement of Working Conditions and Establishment of Improvement Schedules

We measure working conditions twice a year. We improve equipment and facilities by measuring noise, dust, and harmful chemical substances generated in workshops, and evaluating how much workers are exposed to harmful factors. Also, we determine priorities and carry out improvement projects through joint labor-management TFT programs, and give presentations on the measurement results to frontline managers and supervisors.

Classification	Measurement Period	Measurement Agency	Cases of Excess
Incheon	Twice a year September 25 ~ October 10, 2008	Catholic Industrial Medical Center	22 cases related to noise, 3 cases related to welding fume
Changwon	Twice a year October 9 ~ 14, 2008	KMEDI Changwon Hospital	2 cases related to noise
Ansan	Once a year January 28, 2008	Korea University Ansan Medical Center	Not exceeding the exposure standard

Programs for the Reduction of Asbestos

To protect the environment and improve the health of workers, we are prohibiting the manufacturing, import and use of products containing asbestos, and further planning to invest KRW18 billion to replace the finishing materials containing asbestos used during the construction of the factories with materials containing no asbestos.





Certificates and Awards

Since we acquired the ISO 14001 environmental management system certification for the first time in the industry in 1997, we have been expanding our activities to all the domestic plants for prevention of environmental pollution and continuous improvement of environmental performance. While developing the EHS system after acquiring the OHSAS/KOSHA 18001 Occupational Health and Safety Management System certification in 2005, we entered into a voluntary agreement (VA) for saving energy and reducing greenhouse gas emissions with Incheon (2007) and Changwon (2004), and are actively carrying out reduction programs.

Certification

NO	Year	Description	Certification Authority	Remarks
1	1997	ISO 14001	BSI	Incheon factory
2	1999	ISO 14001	BSI	Changwon factory
3	2005	OHSAS 18001, KOSHA 18001	BSI/Korea Occupational Safety and Health Agency	Incheon/Changwon
4	2007	Designated as the environmental management autonomous inspection site	Governor of Gyeong	Changwon factory
5	2008	Designated as the environmental management autonomous inspection site	Incheon City	Incheon factory (Construction Equipment shipping area)

Awards

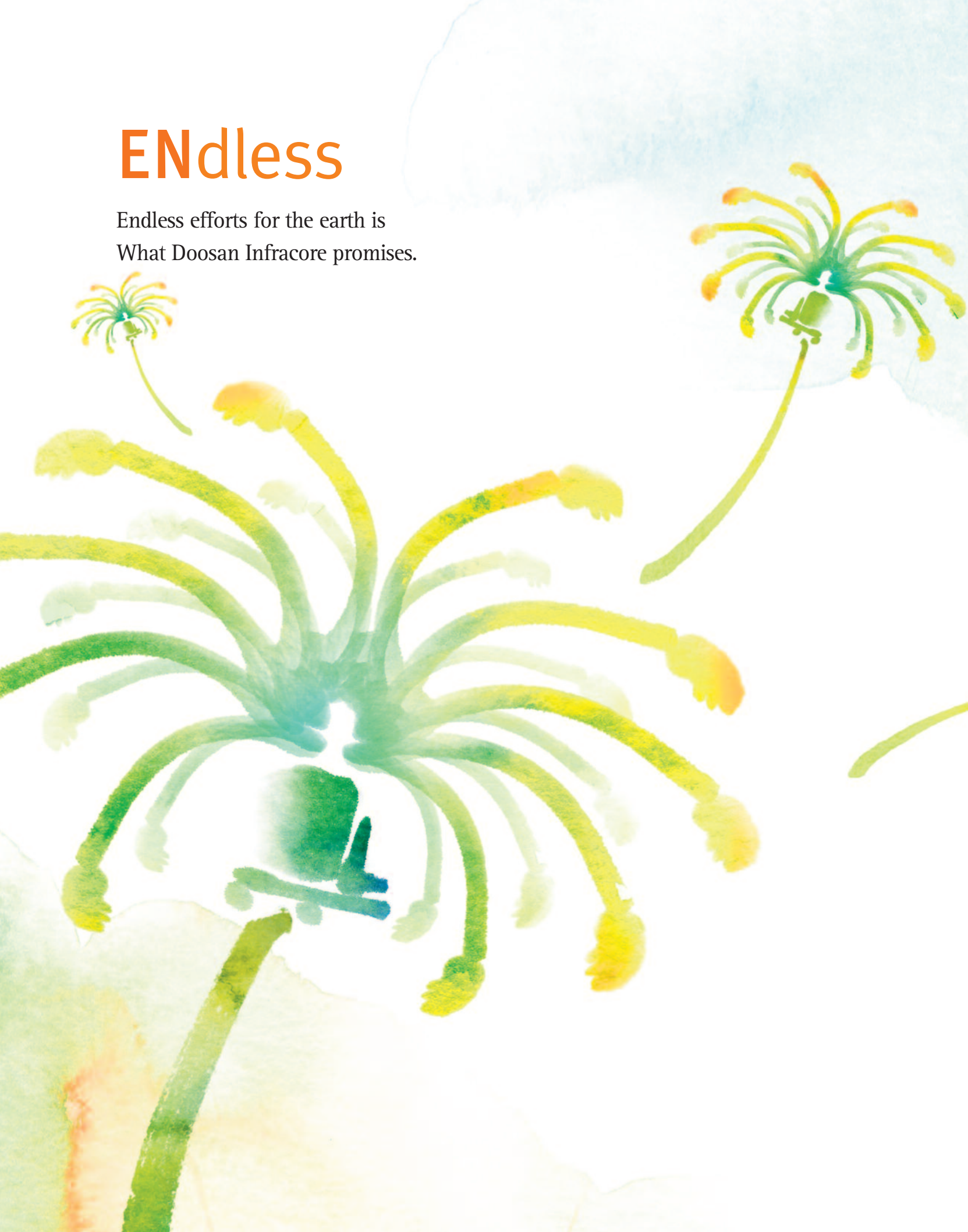
NO	Year	Award	Host	Remarks
1	Nov. 1996	DE12TI engine received the environmental technology award	Ministry of Environment	Incheon factory
2	March 2006	Industrial safety management grand prize	Korea Economic Daily	Changwon factory
3	June 2006	Eco-friendly management grand prize	Korea Economic Daily	Changwon factory
4	Dec. 2006	Won the grand prize in the 14th safety management awards	Ministry of Labor/Maeil Business Newspaper	Changwon factory
5	June 2007	Environmental management grand prize	Incheon Chamber of Commerce	Incheon factory
6	July 2007	Won the gold prize in the parent company-vendors win-win cooperation partnership best practice contest	Ministry of Labor	Incheon factory
7	Oct. 2007	Won the gold prize in the Changwon City environmental management business awards	Changwon City	Changwon factory
8	March 2008	Industrial safety management grand prize	Korea Economic Daily	Incheon factory
9	June 2008	Received the Ministry of Environment award on the 13th World Environment Day	Ministry of Environment	Changwon factory



2008 Minister of environment award

ENDless

Endless efforts for the earth is
What Doosan Infracore promises.



The background of the page is a soft watercolor wash in shades of light blue and green. Scattered across this background are several stylized dandelion seed heads. Some are in full bloom with yellow and orange petals, while others are white and fluffy, appearing to be blowing away. The overall aesthetic is gentle and natural.

Appendix

- 52 Environmental Report Guideline
- 53 Individual Assurance Opinion
- 55 Glossary
- 56 Reader Survey

Ministry of Environment Environmental Report Guideline

Ministry of Environment 2008 Environmental Report Guideline				GRI G3
	Description	Indicator Number	Page	
Introduction	Declaration of CEO	1.1	6~7	
	About us	1.2	8~13	
	Outline of the environmental report	1.3	1	
	Summary	1.4	X	
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	20	
	Environmental audit	3.3	21	
	Environmental education	3.4	22	
	Environmental performance evaluation (EPE)	3.5	X	
	Environmental accounting	3.6	23	EN30
	External environmental investment (new)	3.7	X	
Environmental Impact and Performance	Resource use	4.1	26	EN1/EN2
	Water use	4.2	26	EN8/EN9/EN10
	Energy use	4.3	36	EN3/EN4/EN5/EN7
	Response to climate change (changed)	4.4	33~37	EN16/EN17/EN18
	Use and emission of ozone depletion materials	4.5	X	EN19
	Emission of air pollutants	4.6	26,29	EN20
	Emission of water pollutants	4.7	28,30	EN21/EN25
	Waste discharge and recycling	4.8	31~32	EN22/EN24
	Soil contamination management	4.9	32	
	Environmental impact assessment	4.10	43	
	Eco-friendly products	4.11	38~43	EN6/EN26/EN27
	Eco-friendly packaging	4.12	X	EN27
	Eco-friendly transportation	4.13	X	EN29
	Health and safety	4.14	46~48	
	Noise and vibration	4.15	35,48	
	Harmful chemical substance management	4.16	37	EN23
Stakeholders Partnership	Ecosystem preservation effort	5.1	44	EN11/EN12/EN13/EN14/EN15
	Eco-friendly supply network management	5.2	37,44	
	Legal compliance	5.3	18,26,29,30,41	EN28
	Certification and awards	5.4	49	
	Environmental communication activities	5.5	44	
	Response to international environmental regulation (new)	5.6	37	
Appendix	Report index (new)	6.1	Appendix	
	3rd party assurance opinion	6.2	Appendix	
	Glossary	6.3	Appendix	
	Reader survey			
	Survey result	6.4	Appendix	
	Environmental data by workplace			

Independent Assurance Opinion

Doosan Infracore Environmental Report 2009

Introduction

This assurance was conducted by a 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.

BSI, independent of Doosan Infracore, verified the contents of the 2009 environmental report. Independent assurance opinion was based on the Doosan Infracore's environmental management activities and the scope of assurance specified below, and the assurance has no purpose or obligation other than delivering the assurance opinion to the readers thereof, and is not related to BSI whatsoever. This Independent assurance opinion was prepared on the basis of the information provided by Doosan Infracore, and the integrity and accuracy of the information was verified. It will be Doosan Infracore who will handle inquiries regarding this assurance opinion or related matters.

Assurance Standards

This assurance was conducted on the basis of the six principles mentioned in the Ministry of Environment 2007 environmental report guideline, i.e. fitness, reliability, clarity, comparability, timeliness and verifiability.

Scope

This assurance was conducted for the report prepared on the activities and systems related to the environmental performance of Doosan Infracore's headquarters (Incheon factory) and Changwon factory from January 1, 2008 till December 31, 2008, and other offices and overseas affiliates are excluded from this assurance.

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. It is Doosan Infracore who is responsible for the accuracy of the source data presented during the assurance, and the assurance team used the data presented by Doosan Infracore to prepare this assurance opinion. When it comes to, however, the assurance team verified the reliability of relevant sources and data.

Responsibility

Doosan Infracore will be responsible for this environmental report. BSI's responsibility is to provide stakeholders with an independent report based on the specified scope and methodology.

Methodology

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

- Reviewing reports, internal policy, documents and information system
- Domestic workplaces (Incheon and Changwon factory)
- Interview with employees related to the preparation of the environmental report, and the provision of data
- Inspecting the systems, activities and documents described in the report
- Path tracing for the initially collected data and sampling for in-depth verification during on-site verification

Independent Assurance Opinion

Doosan Infracore Environmental Report 2009

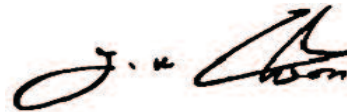
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Opinion Statement of Improvement

On the basis of the assurance activities described above and the opinions presented below, the assurance team made sure that this report truly and fairly reflects the environmental policy, strategy, management system, operations and performance of Doosan Infracore. We submitted, to Doosan Infracore, a management report containing the assurance result presented below and recommendations along with additional details, and discovered the following:

1. Doosan Infracore effectively established the strategy and plan for accomplishing the Global EHS leader vision, and the fact that Doosan Infracore used the Global Audit Program to build the environmental management system in domestic and overseas workplaces and engages in continuous improvement in connection with its mid-to-long-term strategy is a good example.
2. Improvement activities are performed in various areas related to the development of environment-friendly products.
3. Doosan Infracore executed processes for stakeholders' participation, and publicizing its performance in various ways. Increasing the participation of stakeholders to let them understand not only environmental issues but also general sustainability issues will be of great help to Doosan Infracore's future strategy for sustainable growth.
4. For materiality tests, Doosan Infracore considered environmental management, regulations, initiatives, management strategy, interests of stakeholders and various impacts, and identified 20 materiality issues. We expect that Doosan Infracore will be able to effectively manage these issues and thus produce balanced environmental management performance.
5. In relation to response to climate change, Doosan Infracore's greenhouse gas inventory building and mid-to-long-term measures are reported as materiality issues in the report. For more effective and strategic responses to climate change, it will be necessary to build the overall infrastructure for continuous improvement.

27th February 2009
BSI MS Korea CEO Cheon Jeong-Ki




Appendix



BSI Mark

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

Glossary

■ 2S3R	2S (Seiri [sorting], and seiton [straighten or set in order]) 3R (right quality, right quantity and right position)
■ CCO (Concentration Catalysts Oxidation)	The THC emitted by the process is first concentrated by the absorbent (ACF, zeolite), and the low-capacity catalyst oxidation facility attaches it with hot air before the breakpoint of the absorbent is reached. Then, the absorbent is cooled and recycled, and the high concentration of THC, emitted during attachment and detachment, is oxidatively decomposed by the catalyst oxidation facility. Accordingly, the THC emitted from the process can be treated safely, and the heat exchanger is used to recover waste heat.
■ 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 & Safety)	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.
■ 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)	Infrastructure Support Business
■ ISO 14001	It evaluates the environmental management system (EMS) 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 coating 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.
■ VA(Voluntary Agreement)	Corporations that produce, supply and consume energy and governments enter into this agreement on the basis of mutual trust with the aim of accomplishing the goal in energy-saving and greenhouse gas emissions reduction. In accordance with this non-regulatory system, corporations establish goals suited to their situation, and accomplish them. To make sure that the goal is accomplished, the government offers them incentives in terms of funds and taxes to proactively support the corporate efforts.

Reader Survey

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Our heartfelt thanks go to those of you who showed interest in『Doosan Infracore Environmental Report 2009』. Your precious opinion about this report will go a long way in advancing our environmental management.

It would be greatly appreciate if you would fill out the survey and send it to us via fax or e-mail.

Contact us at

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1. What group do you belong to?

- ① Investors ② Customers ③ Vendors 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 Excellent ② Good ③ Commonplace ④ Improvement needed

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

- ① Excellent ② Good ③ Commonplace ④ Improvement needed

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

- ① Outline of the report and CEO Message ② Vision and strategy ③ Environmental management system
④ Environmental impact and performance ⑤ Environmental activities ⑥ Safety and health activities
⑦ Other ()

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

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