



Think the Green []

This message means that, in addition to the key words ‘Green’ to think about the global environment, it expresses the possibility of putting various objects such as The Green Society, People, Company and Business into brackets to engage and embrace with various stakeholders.

About this Report

Report Overview

KC Green Holdings publishes the annual report on sustainability management for the first time in Korea as an environmental company in 2012. Through its Sustainability Report, KC Green Holdings is working on the impacts on various stakeholders and society and will share the achievements including the global environment.

Principle	GRI G4
Target	All domestic and overseas affiliates and workplaces * 3 affiliates of Environmental Service division were merged on December 23, 2016, but this report was reported as an individual company.
Period	2016. 01 ~ 2016. 12 (including some 2017 performance)
Criteria	Information for at least 3 years based on accounting year (USD Currency, 1USD = 1,208 KRW 31, December, 2017)
Verification	The Korea Chamber of Commerce & Industry Business Institute for Sustainable Development
Cycle	Annual
Disclosure principle	All-time disclosure KC Green Holdings website (www.kcgreenholdings.com)
Additional information	KC Green Holdings Sustainable Management Team Tel 02-320-6351 Email Sustainability@kcgreenholdings.com

Cover Story



KC Green Holdings seeks harmony between people and the environment and strives to spread our business and its positive results. In order to symbolize the harmony of people and the environment and the spread of sustainable management effects, mixed and spreading feeling of watercolors is expressed.

Contents

Overview of KC Green Holdings	2017 Sustainability Management at a Glance	04
	Business of KC Green Holdings	06
	Global KC Green Holdings	08

Overall KC Green Holdings' Sustainable Management	CEO Message	12
	KC Green Holdings' Sustainability Management	14
	Governance	15
	Stakeholder Communication	16
	Materiality Assessment	17

7 Agenda for KC Green Holdings' Sustainability Management	Safety and Health	22
	Management Innovation	24
	Ethical Management	27
	Employees	29
	Customers and Partners	31
	Environment	33
	Community	37

APPENDIX	KC Green Holdings' Affiliates	40
	Financial Information	44
	Independent Assurance Statement	50
	GRI G4	51
	Registered Association	54

01 Overview of KC Green Holdings

- 04 2017 Sustainability Management at a Glance
- 06 Business of KC Green Holdings
- 08 Global KC Green Holdings

2017 Sustainability Management at a Glance

The process by which KC Green Holdings creates value and redistributes it

Our assets

Asset
383 mUSD

No. of employee
1,136

Wage of employee
17 mUSD

Employee education support
234 thousand USD
16.6 hours
(internal education per person)
12.5 hours
(external education per person)

Goods and service purchase cost
264 mUSD

R&D
1.7 mUSD

Water
363,265 ton

Energy consumption
1,196 TJ

Our business

Business area



Environmental
Engineering



Environmental
Service



Environmental
Manufacturing



Renewable
Energy

Partners

36



New business

Pressure container maintenance

Homepage renewal

(English, Chinese and Vietnamese)

PR video production



Mission

We are committed:

To embrace talented people with positive thinking
To extend and explore Green Business opportunities through
development and growth of our employees;
And therefore, to contribute to the sustainable development
of the global society.

Vision

Your Global Partner for Green Business

Our achievement

Economy

Sales
324 mUSD

Net profit
5.6 mUSD

Society

Employee (welfare benefit)
2.8 mUSD

Turnover rate
6.4 %p reduction

Industrial disaster rate
0.1 %

State, government (tax)
9.5 mUSD

Social contribution (donation)
78 thousand USD

Shareholder (dividend)
1.8 mUSD

No. of new employee
177

Environment

Environment performance

Environment purification
708,373 ton

Energy recycling
395,242 ton

Greenhouse gas reduction
(Solar power plant)
3,444 TCO₂

Waste recycling
166,785 ton

Environmental impact

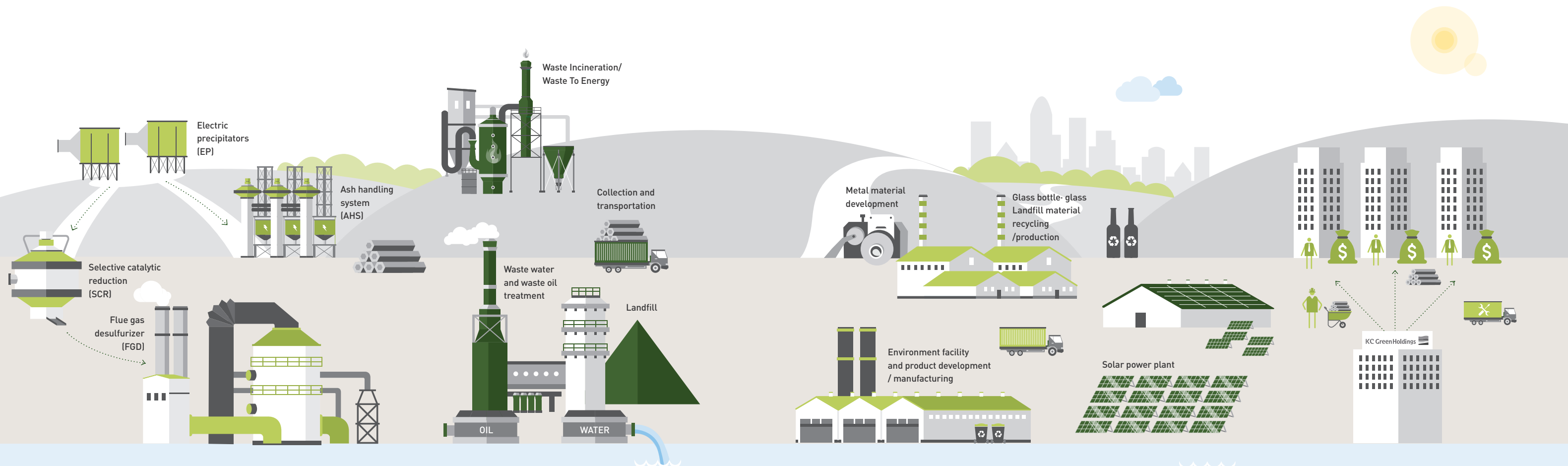
Greenhouse gas emission
234,227 tCO₂eq

Water pollutant
COD **218** mg/l
BOD **246** mg/l
T-N **339** mg/l
T-P **3.2** mg/l

Waste emission
103,372 ton

Air pollutant
Nox **175** ppm
Sox **32** ppm
Dust **5.4** mg/m³

Environment
protection cost
4.9 mUSD



Sales by business

61.9%

222 mUSD

17.1%

6 mUSD

7.5%

27 mUSD

10.1%

36 mUSD

3.4%

12 mUSD

Business of KC Green Holdings

Environmental Engineering

It prevents air pollution by treating fine dust and greenhouse gas generated from industrial boilers, power stations, steel mills and facilities.

Main facilities and services

Electrostatic precipitator, desulfurization/ denitrification facility, ash handling system, pneumatic conveying, pressure vessel inspection and maintenance management

Environmental Service

It transforms waste from business activities into energy through a safe and clean way.

Main facilities and services

Waste incineration, waste landfill, Solid Refuse Fuel (SRF) production, waste water/oil treatment, waste heat sales, steam generation

Environmental Manufacturing

It produces facilities used in environmental plants. It also recycles glass bottles used in environmentally friendly interior design and daily life.

Main facilities and services

Recycling of glass bottles, development of special glass materials, development of metal materials, industrial heat exchangers, eco-friendly prefabricated partitions, transformer manufacturing

Renewable Energy

It constructs solar power generation facilities and provides services for efficient power generation and operation.

Main facilities and services

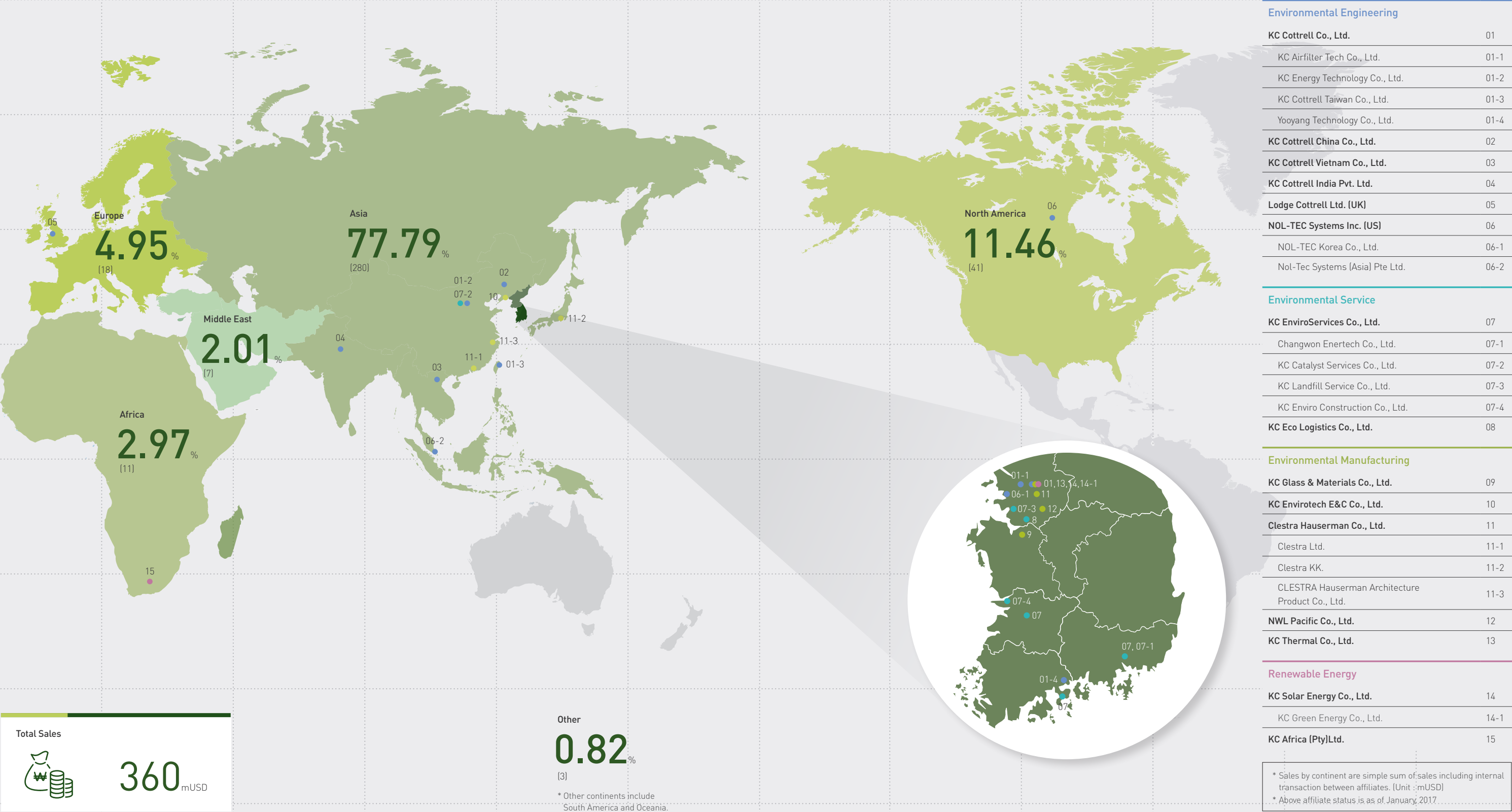
Solar power plant construction, Operation & Maintenance (O&M), Energy Storage System (ESS)

Holding / Investment

We provide advice for overall management activities of the partners such as business strategy and financial strategy. We review new markets and businesses and make investment.

* Sales figure is the simple total including the amount of transactions between each affiliate.
* Investment is profits from the share of affiliates owned by KC Green Holdings.

Global KC Green Holdings



CEO Message



Dear stakeholders,

Since the first publication of the sustainability report in 2012, KC Green Holdings now publishes the 6th report. Due to lack of communication channel considering our business characteristics, we decided to publish the sustainable management report. It became a good opportunity to disclose our sustainable management performance to stakeholders and to evaluate and analyze it internally.

When we prepared the first report, KC Green Holdings developed the 5-year execution plan with a 3-step of preparation, system development and settlement in order to consolidate the sustainable management as the center of management philosophy. For the last 5 years, KC Green Holdings have achieved 6 out of 8 specific implementation tasks. Among them, the objectives of 'improvement of status as a global environment company' and 'introduction of sustainable management promotion task' will be promoted in a long-term perspective by setting a continual improvement target beyond one-time objective.

In the next step, KC Green Holdings set 'settlement of sustainable management of the company level' as a new goal of sustainable management in order to spread and internalize sustainable management to the affiliates, and newly established 'sustainable management team' in order to support internalization and systematization of the sustainable management at the holding company level. As a first execution task for the sustainable management, last May, we integrated vision and mission of KC Green Holdings with the vision and mission of sustainable management which were divided before. By direct education on integrated mission and vision to affiliates, we will do our best to lay a foundation for systematic management and evaluation internally beyond performance report of the sustainable management activity.

In 2017, based on the integrated mission and vision KC Green Holdings and its affiliates will focus on management activity as follows.

First of all, we will actively discover and review new businesses and technologies for the future growth power in the midst of rapid change of industry by the Paris Convention, Sustainable Development Goals (SDGs) set by the UN and the arrival of the 4th Industrial Revolution suggested by Dabos Forum. And, internally we will restructure organization and business portfolio to respond a changing management environment and to enhance management efficiency.

In the second place, we will seek a business opportunity in a new market to secure long-term growth. With the starting point of the overseas market expansion, we have entered a collaboration agreement with the local waste treatment company in Vietnam in last December, and currently have prepared specific strategies with a long-term perspective to develop a foundation in the local market. In the future, we will continue to develop strategic countries such as Vietnam.

Lastly, we will create a flexible organization culture to cope with the contemporary era based on key values of KC Green Holdings such as talented personnel, challenging spirit and value creation so that our employees can adapt rapid changes without being stagnant in the 45 years of corporate culture.

We look forward to your continual encouragement for our efforts to achieve happy people, clean environment and warm society.

Thank you very much.

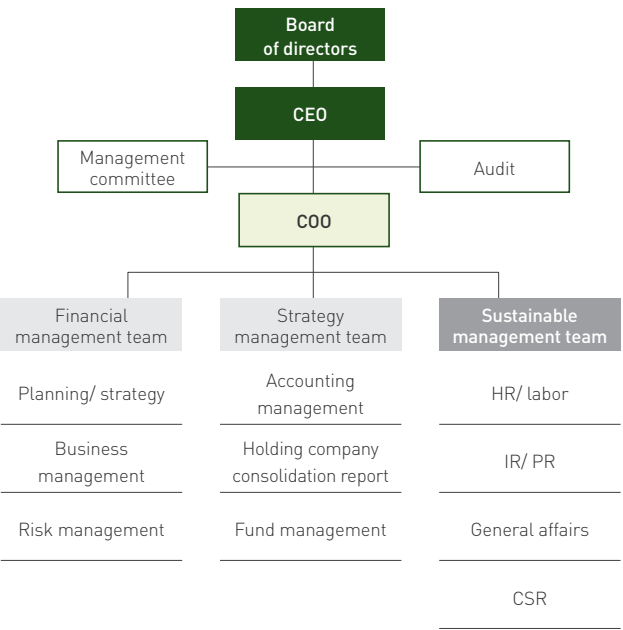
June 2017
KC Green Holdings Co., Ltd.
CEO Taeyoung Lee

KC Green Holdings’ Sustainability Management

Company overview

Company	KC Green Holdings Co., Ltd.	
Est. date	Nov. 27, 1973	
CEO	Taeyoung Lee	
No. of employee	30 (1,136 including affiliates)	
Head office	11F, Digital Cube, 34, Sangamsan -ro, Mapo-gu, Seoul, Korea	
Website	www.kcgreenholdings.com	
Credit rating	A- (Nice D&B Co., Ltd. rating) 2016.05.25	
Shareholders	Taeyoung Lee	31.61%
	Sanyeon Co., Ltd.	8.91%
	Jaeyoung Lee	6.59%

Organization chart



* Sustainable management team was newly established on April 1, 2017.

Mission and Vision of KC Green Holdings

KC Green Holdings integrated KC Green Holdings’ mission vision and sustainability mission vision, which had been separated in 2017, into one.

New mission and vision of KC Green Holdings

Mission

We are committed:

To embrace talented people with positive thinking
To extend and explore Green Business opportunities through development and growth of our employees;
And therefore, to contribute to the sustainable development of the global society.

Vision

Your Global Partner for Green Business

Strategic direction

Synergy creation
through sharing and expansion of internal and external technology, personnel and physical resources

Upgrade of existing business models and development of new business
in line with the advent of the 4th industrial revolution

New market entrance
through business opportunity expansion in overseas market

Key value

Leadership by everyone

Open communication

Mutual respect

Governance

KC Green Holdings makes every effort to protect shareholder rights by pursuing transparent and efficient management through an independent and specialized board of directors.

Board of directors

The board of directors has the authority as the highest decision-making organization in the company. The board consists of six members (as of 2017) with the CEO as the chairperson. They are responsible for risk management and major decision making regarding sustainable management issues such as economy, society, environment. Main issues, whether or not, and if the outside directors are present or not, are disclosed in the electronic disclosure system.

Audit and director status (as of April 2017)

Cate-gory	Name	Main career	Date of appoint-ment	Sex
Internal director	1 Taeyoung Lee	CEO of KC Green Holdings Co., Ltd. Committee member of Chamber of Commerce and Industry environment and safety committee Director of EcoMom Korea Simon Fraser University MBA Seoul National University (BA)	15. 03	Male
	2 Jeongwan Kim	COO of KC Green Holdings Co., Ltd. CEO of KC Glass & Materials Co., Ltd. Seoul National University Department of Business Administration (BA, MA) CPA	16. 03	Male
	3 Kiseo Park	Vice president of KC Green Holdings Co., Ltd. CEO of KC Thermal Co., Ltd. Seoul National University Department of Mechanical Engineering (BS)	16. 03	Male
Outside director	4 Jaekyung Lee	Professor of Dept. of Management, Kookmin University University of Texas - Austin (Ph.d. in accounting) University of California, Berkeley (MBA) Seoul National University Department of Business Administration (BA)	16. 03	Male
	5 Kyunghoon Lee	Former vice president of POSCO Energy Suncheon National University (MS, Ph.D.) Department of Chemical Engineering, Chung-Ang University (BS)	17. 03	Male
Auditor	6 Jongyeol Kim	Adjunct Professor, Graduate School of Engineering, Hanyang University Hoseo University Venture School (Ph.D.) Inha University Graduate School of Business (MA) Chung-Ang University Department of Business Administration (BA)	17. 03	Male

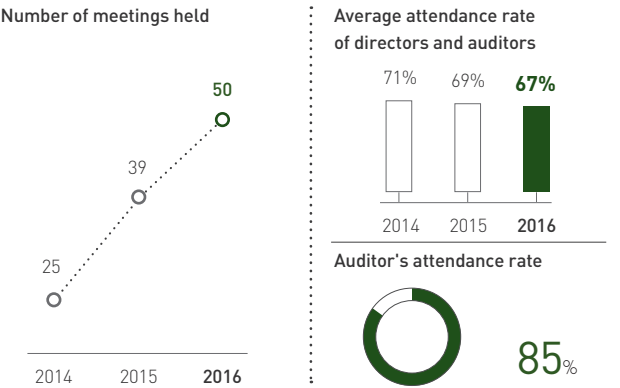


Evaluation and compensation

Remuneration for directors and auditors is paid based on basic annual salary and incentive pay according to management performance within the annual remuneration ceiling approved by the general meeting of shareholders. The total amount of remuneration for five directors and auditors approved by the board of directors in 2016 is 2,235 thousand dollars, and the actual payment amount is 493 thousand dollars.

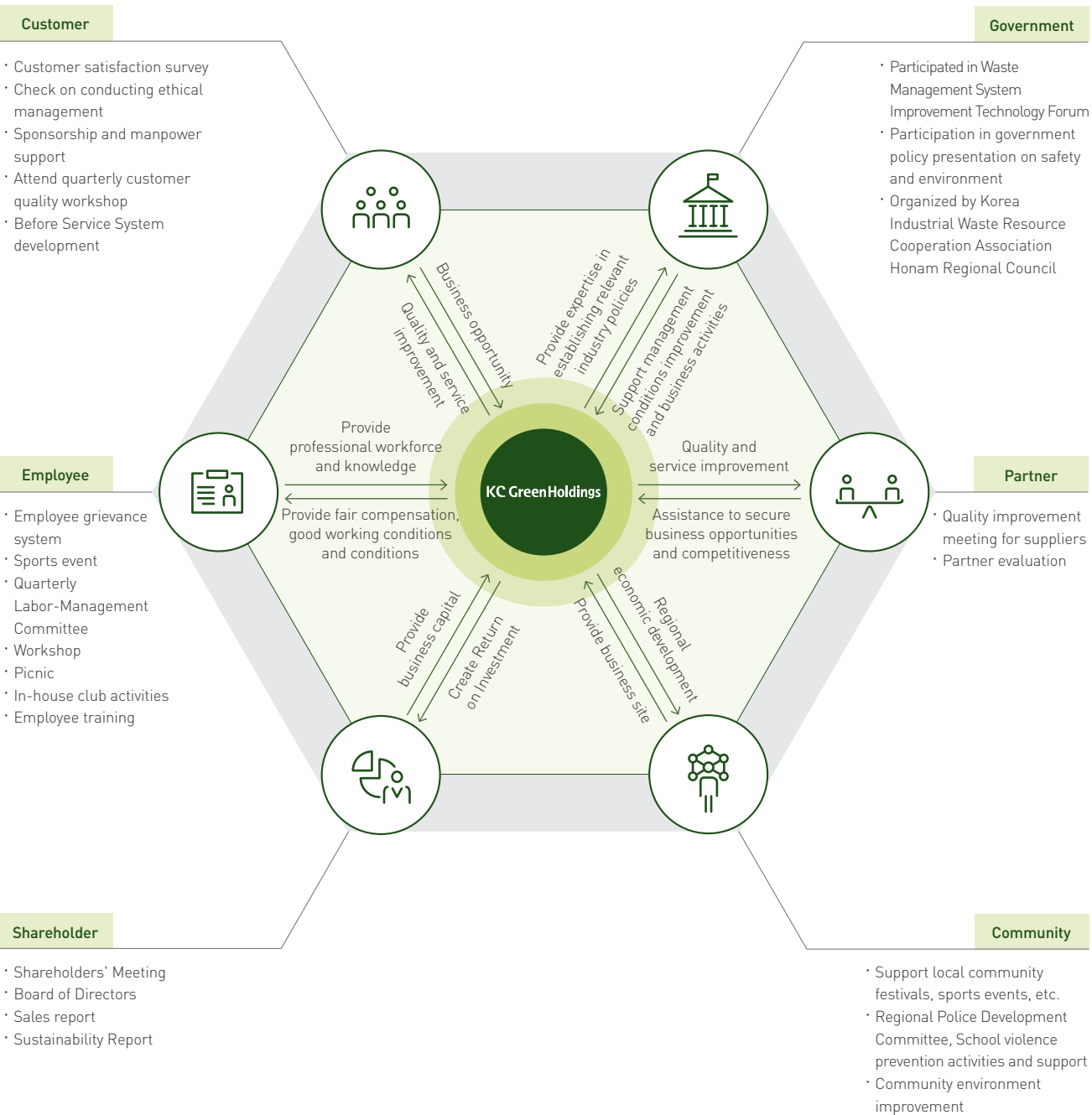
Category	No. of person	Actual payment	Upper limit of compensation
Director	Registered	3	400 thousand USD
	Outside	1	25 thousand USD
Auditor	Auditor	1	68 thousand USD
			165 thousand USD

2016 Board of Directors' meeting



Stakeholder Communication

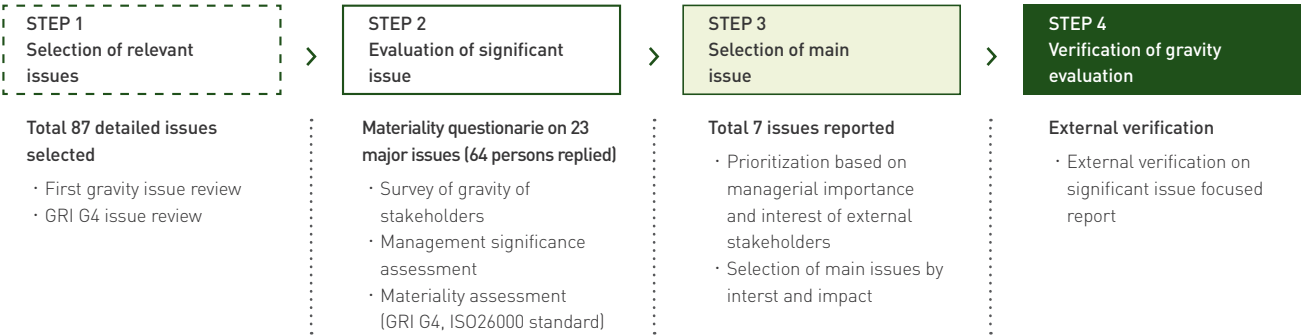
Considering the impact and importance on business activity, KC Green Holdings defines customers, employees, community, partners, shareholders and government as its stakeholders. It understands major issues through various channels with domestic and overseas stakeholders and reflects them in sustainability management.



Materiality Assessment

KC Green Holdings complies with the guide about issues and composition of contents which GRI advises, and has conducted a second stakeholder significance test following 2013.

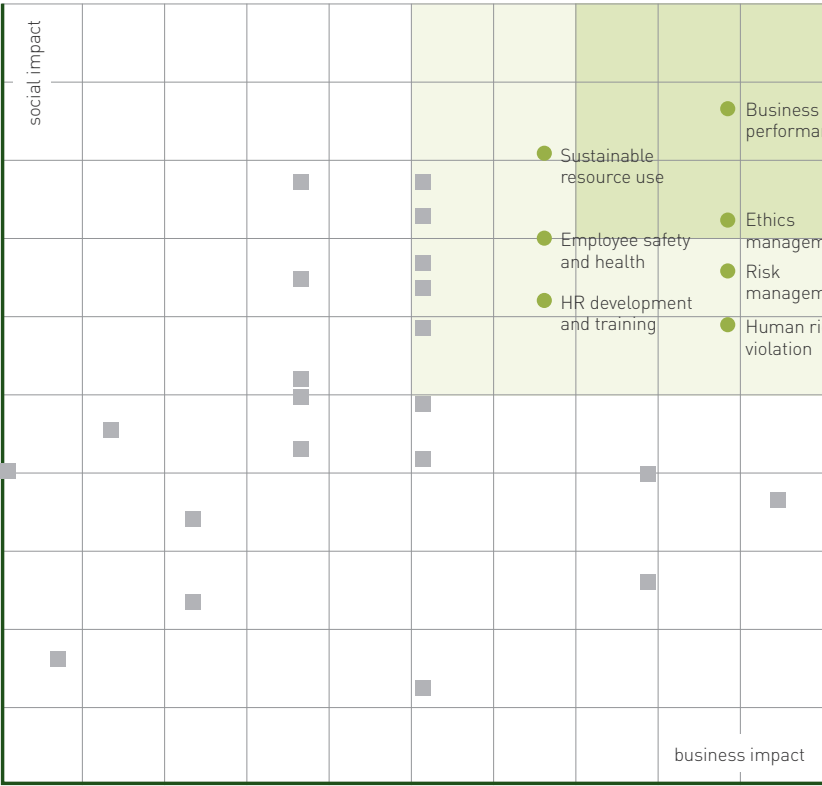
The materiality of KC Green Holdings is the extent to which it affects the sustainability of the business, the value that KC Green Holdings pursues, and the extent to which KC Green Holdings affects or engages stakeholders in its activities. Based on a total of 87 detailed issues, this assessment has identified 23 major issues, and priority was determined by collecting opinions on the importance of management from total 64 external stakeholders and executives. In 2017 Sustainability Report, it reports 7 issues which regard relatively important than other issues.



Main issues	Page	GRI Aspect
Business performance	6-7, 49	Economic performance
Sustainable resource use	34, 35	Raw material
Ethics management	27, 28	Ethics and Integrity
Employee safety and health	22, 23	Workplace Safety and Health
Risk management	13, 15	Organization Profile
Workforce development and training	30	Training and Education
Human Rights violation	29	No Discrimination

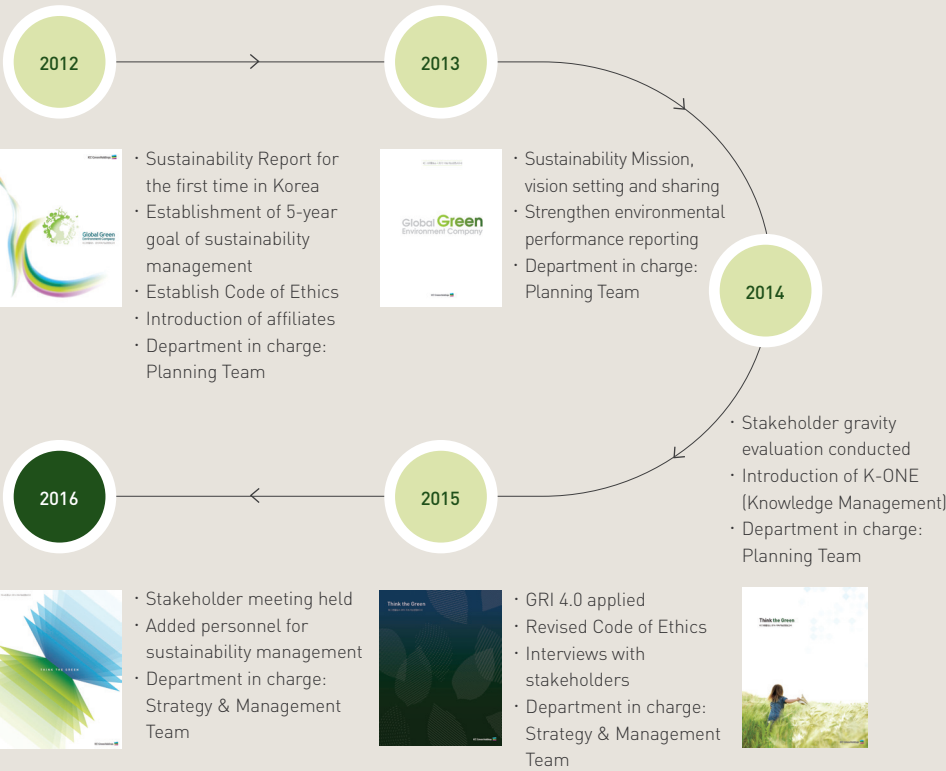
Analysis of survey subject

No.	Stakeholder	No. of respondent	Ratio
1	Employee	23	35.9%
2	Partner	18	28.1%
3	Other	13	20.3%
4	Government or public institution	5	7.8%
5	Customer	4	6.3%
6	Shareholder	1	1.6%



SPECIAL PAGE - 1

Sustainable management report for 5 years



Share performance of 5-year promotion target for sustainability management

When KC Green Holdings published its first report in 2012, we declared to set up and pursue the 3 steps of preparation, implementation and settlement in order to grow into a sustainable company in the future. We shared our achievements through our sustainability report for five years and achieved six out of eight goals by communicating and sharing performances through the reports. We are striving to achieve two goals (deriving sustainability management tasks and enhancing our position as global environmental companies) in the long term perspective.

Preparation for Sustainability Management ~2013	Implementation of sustainability management system 2014~2015	Settlement of sustainability management 2016~
Establish ethical management program	Establish vision and strategy for sustainable management	Declare sustainable management introduction
Publish Sustainability Report	Extract sustainability management promotion tasks	Support external awards for demonstrating sustainability management excellence
Increase the status as a global environmental company	Establish sustainability management operating organization	

(Completion ○, progress ▲, not executed ✕)

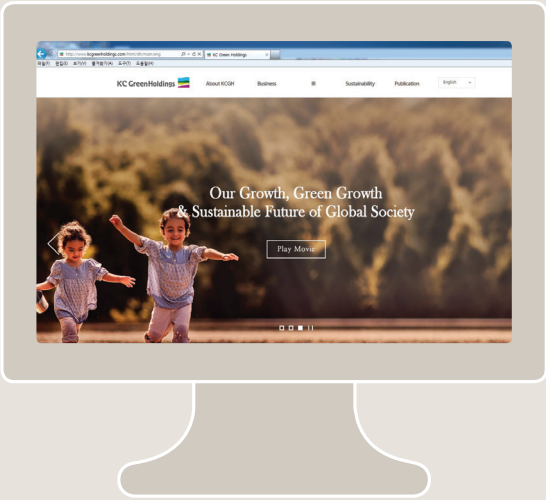
SPECIAL PAGE - 2

Strengthen communication channel

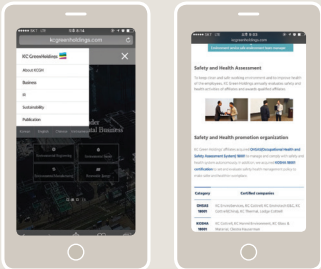
KC Green Holdings updated its website in 2016 and created promotional videos to strengthen communication channels with stakeholders. Here are the new website and promotional videos.

Website

1. PC website screen



2. Smartphone website screen



3. QR code

* If you scan the QR code, you will find our new website and promotion video.



Development background	Changes
<ul style="list-style-type: none">• Design maintenance is required as five years have passed after the first production Design is required to enhance the readability and understanding of visitors with corporate identity• Homepage compatibility issue Explorer version, some functions are restricted on mobile devices• Difficulties in management When changing contents, it must be changed by maintenance company and it is troublesome to update.	<ul style="list-style-type: none">• Reactive web: Function that appropriately changes configuration and design according to access device• Enhance management efficiency of administrators It is easy to update by administrator in text form instead of image form• Emphasis on sustainability management activities It is made of a separate menu, the sub-tab consists of the sustainability report, Code of Ethics and Safety and Health Environment• Various language support (English, Chinese and Vietnamese)

Promotion video

The promotion video with the introduction of KC Green Holdings and its affiliates is produced in order to make it easier for our stakeholders to understand the relatively unfamiliar business of KC Green Holdings and its affiliates.

Language Support: Korean, English, Chinese, Vietnamese

* You can find promotion video on the KC Green Holdings website in the main and media - promotion video menu.

for KC Green Holdings’ Sustainability Management

KC Green Holdings and its affiliates selected 7 important issues for the business activities. We will report on the activities and performance of KC Green Holdings and affiliated companies by our 7 agendas

	Customer	Employee	Shareholder	Community	Partner	Government
01 Safety and Health		●			●	●
02 Management Innovation	●	●	●			●
03 Ethical Management		●			●	
04 Employees		●				
05 Customers and Partners	●				●	
06 Environment			●	●		
07 Community				●		

01



Safety and Health

Safety and health must be considered as top priority as KC Green Holdings and the business groups of its affiliates have relatively high risk factors due to the characteristics of the business group. KC Green Holdings evaluates the safety and health activities of its affiliated companies annually and manages them through dedicated safety environment organizations and committee.

Industrial disaster rate
0.15 %
2 out of 21 companies

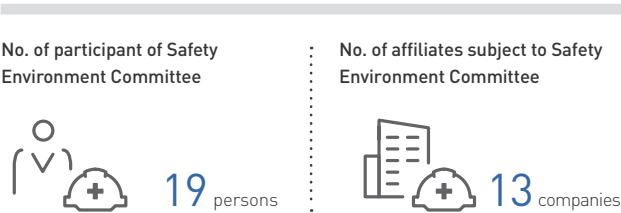
Disaster free achievement
7 companies
(1^)

Special health examination rate for the target personnel
99.4 %

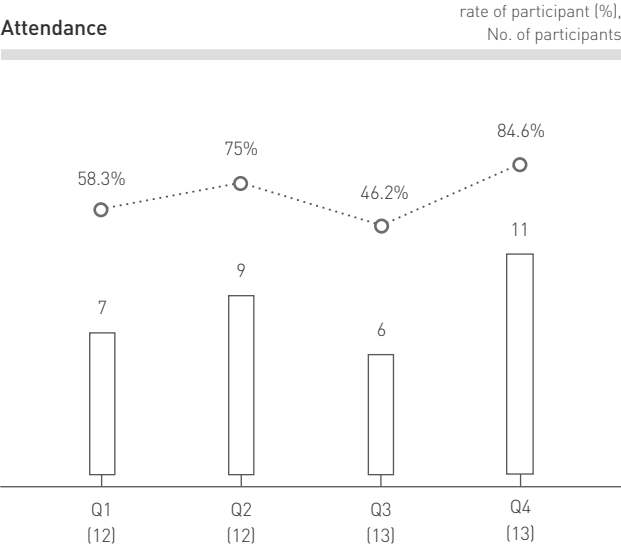
Safety and health management

KC Green Holdings shares safety and health related guidelines and manuals on network bulletin boards of internal servers to familiarize all related companies with manuals, prevent risks in advance and emphasize the importance of safety and health to employees for the management of safety and health with top priority.

Safety & Environment committee Safety and health staffs from affiliated companies gather to participate in safety-related seminars and meetings every quarter to share current issues and cases, contributing to the safety and health of employees of KC Green Holdings and affiliates.



Safety and environment committee



Safety and health evaluation

The safety and health auditor visits domestic affiliates annually to evaluate and award safety and health activities to encourage the safety and health activities of related companies. In 2016, out of total 11 affiliated companies, KC Cottrell and KC Hanmi Environment were awarded, and a total of 8 companies, including 6 partners, were awarded prize money.



Safety and health award

Details of safety and health evaluation

Evaluation items (out of 200)
accident rate (30), health and safety education (25), on-site inspection (20), safety and health activities (80) and safety and health system (45)

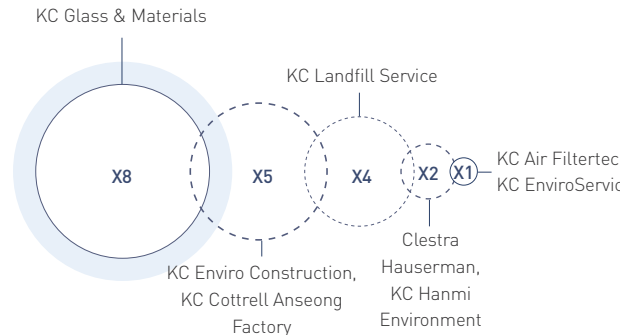
Company	Evaluation result	Remark
KC Hanmi Environment	207	Active participation in improvement activities Waste oil recycling process established
KC Cottrell Anseong Factory	201	Certification of excellent workplace for risk assessment Expansion of health management target (70 persons for partner companies)
KC Glass & Materials	*****	Safety and health education to all target participants 100% for risk assessment improvements action
KC Eco Energy	*****	Safety check day event Other health education conducted
Clestra Hauserman	*****	Analysis of health promotion program effect by participatory improvement activity technique
KC Enviro Services	****	Risk improvement action conducted
KC Landfill Service	***	Risk assessment, special safety and health education required
KC Enviro Construction	***	Need to establish safety and health action plan
NWL Pacific	***	Risk assessment staff training and evaluation plan required
KC Air Filtertech	**	Safety check and follow-up management of health required
Nol-Tec Korea	*	Inadequate safety and health guidelines and standards Risk assessment, additional safety and health education required

* Above contents are written based on 2015 activities since we evaluate the activities of previous year
***** : 180~200, **** : 160~180, *** : 140~160, ** : 120~140, * : ~120

Affiliates' safety and health certificate

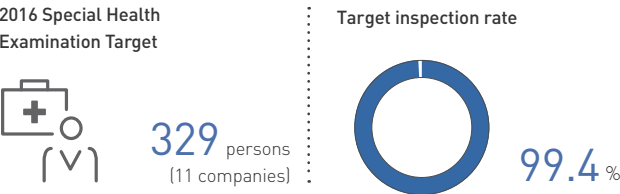
Category	Company
OHSAS 18001	KC Cottrell, Changchun KC Envirotech, Lodge Cottrell, KC EnviroServices, KC Thermal, KC Envirotech E&C
KOSHA 18001	KC Cottrell, KC Hanmi Environment, KC Glass & Materials, Clestra Hauserman
Risk assessment certificate	KC Hanmi Environment, KC Eco Energy, KC Air Filtertech
CLEAN workplace certificate	NWL Pacific, KC Air Filtertech

Disaster free achievement



Worker health management status

Annual health checkups for workers are carried out in the workplace with high incidence of disease, and precision inspection and follow-up management are monitored.



* 2 persons who did not take a special health checkup in 2016 are conducting a health checkup every two years. They did not qualify for a health checkup in 2016, and a health checkup was conducted in 2015.

Safety education status

Training name	Periodic training (1 times/m)	Manager and supervisor education	New employee education	Special safety and health education
Target (person)	477	74	81	84
Completion rate (%)	97.1	96	100	90.5

* The above figures are based on 11 domestic affiliates subject to the safety and health audit.

02



Management Innovation

It is important to develop and acquire the flexibility of the organization and to understand the market and new technology in order to cope with the rapid changes in management environment and technology. KC Green Holdings and its affiliates are constantly seeking ways to improve management efficiency and invest in new technology development and new businesses in order to grow into a sustainable company in this environment.

Patent registration and application

8 cases

Government subsidy

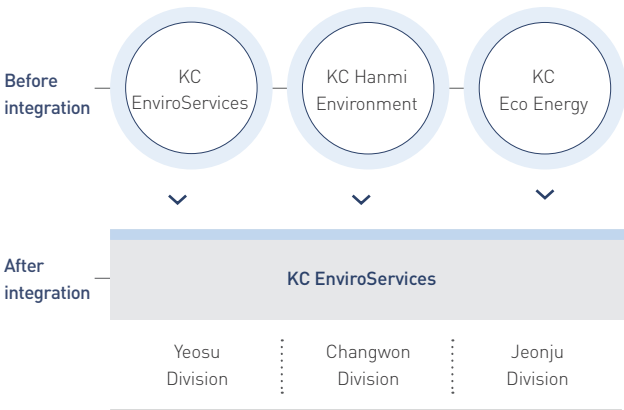
1.2 mUSD

R&D investment cost

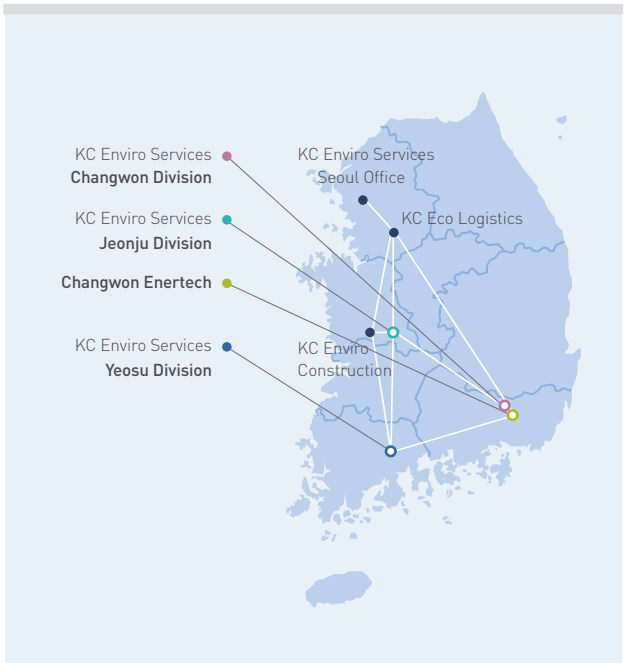
1.4 mUSD

Management efficiency

KC EnviroServices Integrated Corporation 3 representative companies of Environmental Service Division that operates waste incinerator (KC EnviroServices of Yeosu, KC Hanmi Environment of Changwon, KC Eco Energy of Jeonju) merged on December 23, 2016 and newly launched as KC EnviroServices Co., Ltd. Integrated Corporation. Since the expansion of facilities by individual corporations began in 2014, the 3 corporations that have stabilized their operations have improved their operational efficiency through quick decision-making and professional expertise through mergers. They will expand the market coverage in the metropolitan area and overseas and plan to expand into new businesses.



National network in Environmental Service



New market and new business entry

Waste treatment business in Vietnam In December last year, KC Green Holdings entered into a joint venture agreement with Lich, the representative of PhucLoi, a local waste treatment company in Vietnam. In the first place, we review waste collection, recycling and intermediate processing in our workplaces. They plan to expand the business area by taking Vietnam as a strategic country in consideration of local environmental policies.



Vietnam joint venture agreement

Yuyang Technologies Co., Ltd. KC Cottrell acquired Yuyang Technologies Co., Ltd. in July for inspection, maintenance and maintenance of pressure vessels. Yuyang Technologies was selected as a special equipment inspection company by the government in 1998 and has long know-how and proven technology. It is also registered as an excellent partner company of POSCO steel mill in Gwangyang and has an internal steelworks office. The acquisition of Yuyang Technologies is expected to generate synergies for entering the O&M market in iron and steel business

The 4th Industrial Revolution KC Green Holdings encourages employees to take external education regarding the fourth Industrial Revolution and to read books relating it so that all employees can respond to the changes that it will bring. CEO of KC Green Holdings shared a book relating it and gave a lecture to the executives of affiliates. CEO of KC Cottrell, gave a lecture titled "Future in front of us" to the employees. It gave an insight on what it is and the example of the other companies that made the innovation gave us a sense of the upcoming management environment. It was time for everyone to think about the food industry of the future together.



Special lecture by CEO Taeyoung Lee on 'Resource Revolution'

R&D

R&D personnel

40 persons

R&D investment cost

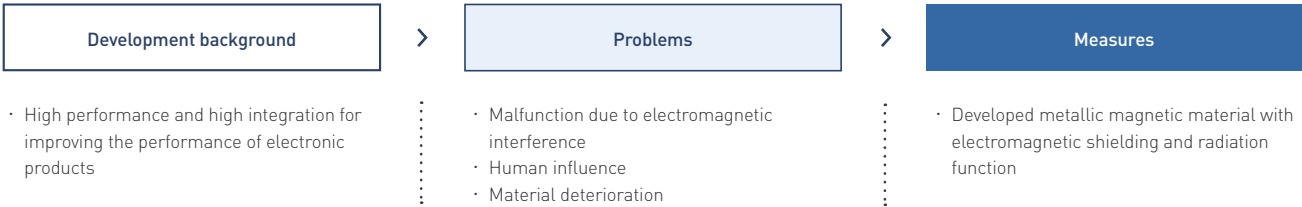
1.4 mUSD

R&D Projects

- Current research projects**
- KC Cottrell**
- Development of CO₂ capture technology commercial package through operation of dry CO₂ capture plant after 10MW burning
 - High value-added chemical products using captured CO₂: Development of existing production process innovation technology
 - Commercialization of CO₂ solidification technology through the stabilization of heavy metals in power plant refinery and composite wastes
 - Development of remanufacturing technology of heavy oil desulfurization catalyst and denitrification SCR catalyst after use (KC EnviroServices, Hanseo University)
 - Development of new biomass fuel using domestic bio waste (participated in KC Eco Energy)
 - Development of Long Bag Test Tower for development of fine dust treatment facilities
 - Development and validation of desulfurization system through application of condensing system to the end of desulfurization facility
 - Developed a modular composite distributed power system
 - Long bag performance improvement (KC Air Filtertech participation)
- Nol-Tec Systems**
- Sorb-Tec for DSI, ACI, APC systems
- KC Hanmi Environment**
- Oil separation system of waste oil
 - Waste Oil Purification System
- KC Glass & Materials**
- Development of low thermal expansion glass board technology 3rd year progress
 - Development of material parts technology for infrared optical glass in the 2nd year
 - Development of metal magnetic alloy material technology with high magnetic shielding and high heat dissipation properties in the 1st year
- Prospect research projects**
- KC Cottrell**
- Establishment of fine dust control and stabilization of downstream equipment by applying wet electrostatic precipitator after desulfurization absorption tower
 - Air pollutant emission sources (PM, BC) for ship development Climate change impact assessment and abatement technology development
 - Hadong Thermal environment facility optimum improvement engineering research project
- KC EnviroServices**
- Recovery of valuable metals by solution extraction after production of heavy oil desulfurization catalyst material
- KC Hanmi Environment**
- High concentration wastewater treatment system
- KC Glass & Materials**
- Advanced material section (Insulation material, ceramic, glass bubble frits)
 - Study on hybrid glass (sharing properties of glass and polymer)

R&D activities

Market-creating creative technology development project KC Glass & Materials was selected for a market-creating creative technology development project and has been developing a magnetic metal alloy material with high magnetic shielding and high heat dissipation properties along with the Korean Ceramic Society. It is expected to be a new growing business model of KC Glass & Materials by utilizing it in various fields such as industry, medical care and national defense.



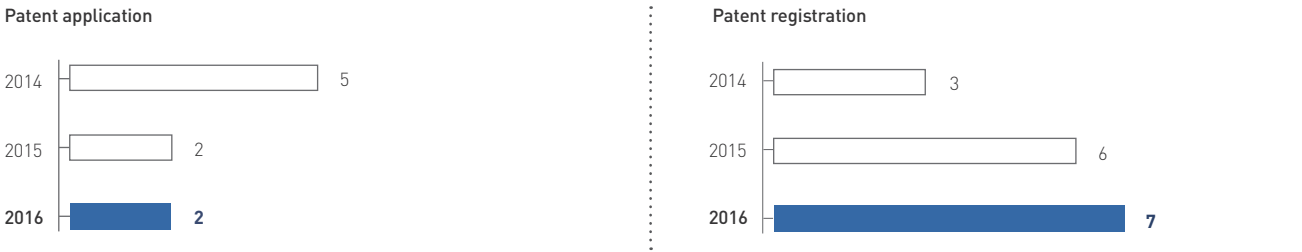
New patents

	Patent name	Right holder	Reg. date	Reg. no.
1	Bag filter dust collection control system	KC Cottrell	2016.05.17	No.10-1623335
2	Treatment apparatus and treatment method of seawater using limestone	KC Cottrell, POSCO E&C	2016.05.26	No.10-1626532
3	Treatment apparatus and treatment method of seawater using power plant by-products	KC Cottrell, POSCO E&C	2016.05.26	No.10-1626530
4	PH-separated wet desulfurization apparatus	KC Cottrell	2016.08.01	No.10-1646058
5	Method of manufacturing copper tape by rolling copper foil	KC Glass & Materials	2016-02-18 (reg. transfer date)	No.1182110
6	Rolled thin sheet of green ferrous copper for electromagnetic wave shielding and its manufacturing method	KC Glass & Materials	2016-02-02 (reg. transfer date)	PCT/KR2014/008317 (International application number)
7	Lithium aluminosilicate glass ceramics with controlled permeability, method for producing the same, and electric heater manufactured	KC Glass & Materials	2016-07-29 (application date)	No.10-2016-0097442
8	Photovoltaic power generation system with fog spray cooling cleaning device for solar modules	KC Solar Energy	2016.02.25	No.10-1599420

* KC Glass & Materials transferred the patents to KC Glass & Materials while acquirin Green Industry.

Patent

(cases)



03



Ethical Management

Transparent management activities and ethical awareness of employees should be equipped in order to gain trust from various stakeholders and grow into a sustainable company. KC Green Holdings conducted education to its affiliates' employees regarding KC Green Holdings' Code of Ethics to raise ethical awareness and also conducts any related education if there needs any.

Legal compulsory education for target companies

100 % completion

(13 companies)

Corruption event incurrence

0 case

Education on Anti-Graft Act

Efforts for ethical management

Following last year, KC Green Holdings has been working to raise ethical awareness among its employees by conducting ethics training programs for affiliated companies. In addition, since September 28, 2016, the Anti-Graft Act (aka Kim Young-Ran Law) was enacted, and all employees learned new laws in advance and conducted in-house training to prevent future violations. We also posted educational materials and shared them with related companies to encourage employees of all affiliated companies to practice ethical management and maintain sound relationships with suppliers.



Code of ethics education

KC Green Holdings' Code of Ethics

KC Green Holdings revised its Code of Ethics in 2015 to emphasize the necessity of ethical management for employees of affiliated companies and educated the revised Code of Ethics to be the basic code of conduct for employees.

Chapter 1 Basic Attitude of Employees	Understanding our mission/ vision and core value, and capacity and attitude of employees to achieve them
Chapter 2 Fair Trade, Fair Competition	Attitude to seek mutual growth and to participate in fair and just market competition with partners without engaging in corruption or embezzlement
Chapter 3 Responsibility to Customers and Shareholders	Responsibility to provide better value to customers and shareholders through management innovation and efficient management
Chapter 4 Responsibility to Society	Willingness to recognize needs and tasks of economic, social and environmental responsibility for sustainable management and to achieve the goal
Chapter 5 Application of the Code of Ethics	Establishment of the Code of Ethics for all affiliated companies of KC Green Holdings with its objective and target

Status of ethics education per affiliated companies

KC Green Holdings and 13 domestic affiliated companies have completed their compulsory education. In addition, 2 overseas affiliates have also conducted ethics training.

Ethics education per affiliated companies

Division	Affiliate name	Education name	Hour (time)	Attendance (person)
Environmental Engineering	KC Green Holdings	Sexual harassment prevention education	1(1)	11
	KC Cottrell (including Anseong Factory)	Sexual harassment prevention education	2(1)	118
	Nol-Tec Korea	Sexual harassment prevention education	1(1)	23
		Privacy education	1(1)	3
	KC Air Filtertech	Sexual harassment prevention education	1(1)	12
		Privacy education	1(1)	12
	Lodge Cottrell	Ethical Company Policy	3(1)	14
Environmental Service	KC Cottrell India	Anti Corruption Law	1(1)	10
	KC EnviroServices	Sexual harassment prevention education in the workplace	1(1)	30
	KC Hanmi Environment	Transparency with stakeholders and respect for the property rights of the company	2(2)	50
		Sexual harassment prevention education	1(1)	53
	KC Eco Energy	Sexual harassment prevention education	1(1)	54
		Code of Ethics education	1(1)	59
	KC Landfill Service	Sexual harassment prevention education in the workplace	1(1)	8
		Ethical Company Policy	1(1)	8
	KC Eco Logistics	Sexual harassment prevention education	1(1)	8
		Fair trade and anti-corruption education	1(1)	2
Environmental Manufacturing	Clestra Hauserman	Sexual harassment prevention education in the workplace	1(1)	23
		Privacy education	1(1)	23
	KC Glass & Materials	Ethical management standard education	1(1)	139
		Sexual harassment prevention education	1(3)	139
		Privacy education	1(3)	139
	NWL Pacific	Sexual harassment prevention education	1(1)	28
Renewable Energy	KC Solar Energy	Sexual harassment prevention education	1(1)	15
		Privacy education	1(1)	15

Performance rate of legal compulsory sexual harassment prevention education to target companies



Law violation

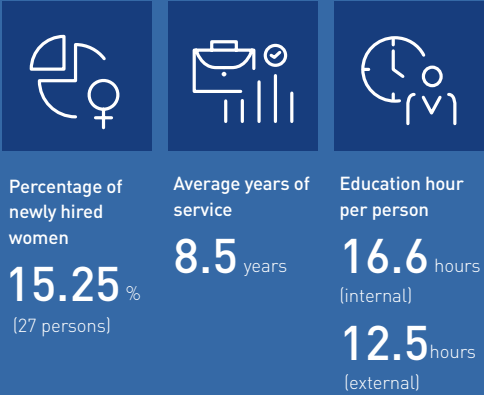
KC Green Holdings and its affiliates had no incidents related to corruption and unfair competition in 2016. However, in the process of managing waste, 3 violations were found and a total of 2.8 thousand dollars was fined. It is planned to strengthen related legal education to prevent recurrence in the future.

04



Employees

KC Green Holdings recognizes its employees as the most important resource for organizational growth and development. We have programs such as the flexible time system and incentives for childcare leave, self-development support, and grievance processing processes to support employees' happiness and respect for human rights.



Respect for human rights and pursue diversity

Respect for Human Rights and Non-Discrimination In Code of Ethics revised in 2015, employees, its customers and stakeholders were prohibited from unreasonable discrimination for any reason, and we provided education about Code of Ethics to employees. There is no discrimination on the basic salary ratio for female and male based on 15 companies as of 2016.

Pursuing diversity among employees KC Green Holdings and its affiliates make effort for sustainable talent management by providing equal opportunities to employees and not discriminating for their sex, age, religion, nationality or any reason. As of the end of 2016, the total number of employees of KC Green Holdings and affiliated companies is 1,132. By types of employment, 1,047 (92.5%) are full-time and 85 (7.5%) are contract job. By age, 119 (11%) are below 30 years old, 672 (59%) are between 30 and 50 years old, and 341 (30%) are over 50 years old. By sex, it consists of 962 men (85.0%) and 170 women (15.0%). In 2016, the employment rate for people with disabilities is 2.0%.

Employment status

Category	Classification (unit)	2014	2015	2016
Employment	Total Employees (persons)	1,111	1,119	1,136
	Employment of persons with disabilities (%)	2.4	4.2	2.0
	Contract employment (persons)	94	89	85
	New recruits (persons)	133	192	177
	Average years of service (years)	7.2	7.2	8.5
Retirement/turnover	Retirement rate (%)	4.8	10.2	7.8
	Turnover rate (%)	11.7	16.1	9.7
Female / childbirth	Number of female workers (persons)	159	158	170
	Number of newly hired female employees (persons)	10	29	27
	Female managers (persons)	35	34	38
	Maternity leave users (persons)	1	7	7
	Parental leave user (persons)	0	6	14
	Turnover rate after parental leave (%)	-	100	99
Labor and management communication	Number of labor union membership (persons)	391	343	302
	Labor union membership rate (%)	35.2	30.7	26.7

Empowerment of employees

Stable life after retirement KC Green Holdings adopts a defined benefit retirement pension system, which is managed by the management of the retirement pension system. After retirement, retired employees or prospect retired employees of KC Green Holdings and its affiliates gathered in January 2016 to establish KC Second Life Start (KCSLS). KC Green Holdings and its affiliates receive competitive engineering services in various aspects through KCSLS.

Advanced Management Program(AMP) KC Green Holdings has established an in-house curriculum (AMP) for executives of affiliated companies for six months starting May 2016. AMP is a training course to learn the educational management strategies and to understand strategic essential factors for corporate success and apply them to the business plan. A total of 30 people have completed the first AMP in 2016, and the second AMP will be in progress from the first half of 2017.



AMP course completion ceremony

Self-development activity of employee KC Green Holdings encourages language and other self-development as well as enhancing employees' job skills.

Education hour per person



External education implementation status (hour)

Category	2015	2016
Language education	1,691	3,032
Job education	13,742	10,700
Special education	379	391

Unity activity of employees

Workshop for management/ support of affiliates A workshop is hosted for employees in support/management team who have relatively little opportunity to leave the office so that they may have time to refresh the air. It is expected that it will help improve work performance of affiliates companies through various activities of management/ support team members who have many opportunities to work collaboratively, including brief training on wage peak system and corporate vehicle operation instructions.



Affiliate management/ support workshop

Sports event of employees In the ES division, sports events are held every year to form networks among affiliates in order to unify and promote health. A total of 9 companies participated in the 2016 ES Sports Festival, which is the 7th this year, including the Environmental Service division.

05



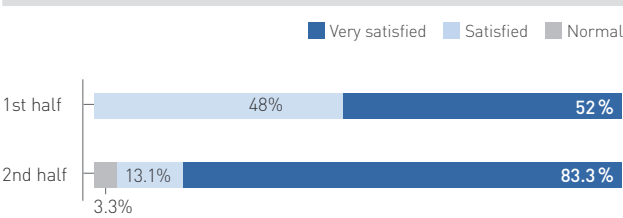
Customer and Partners

KC Green Holdings and its affiliates are striving to increase customer satisfaction through various channels in order to meet the increased demands of customers due to the rapid development of modern technology. In addition, cooperation with partners to grow together through ethical and fair cooperation will be carried out.

Efforts for customer satisfaction

KC Cottrell shares the customer requirements at the Safety Environment Quality ("SEQ") meeting, based on customer satisfaction surveys on a semiannual basis, and strives to improve customer satisfaction by applying them during product design. In the first half of 2016, 52% of the respondents answered "very satisfied" and 48% of the respondents answered "satisfactory." In the second half of the survey, 83.3%, 13.3% and 3.3% answered 'very satisfied', 'satisfied' and 'normal' respectively.

KC Cottrell customer satisfaction survey result



KC EnviroServices has figured out customers' difficulties and suggestions questionnaire twice a year and consult solution methods for improvement. Last year, it conducted four customer satisfaction surveys, all of which were rated 'excellent'. and it solved customers' difficulties and suggestions by strengthening education for waste-transfer engineers and having them confirm on site since it heard from customers to 'make arrangements for clean-up after work.

KC Glass & Materials has received 31 customer complaints and completed 100% response through the complaint contact system in 2016.

Clestra Hauserman collects quality, delivery and other comments through the confirmation of completion of construction, which is being used to improve service in the future. As a result of the satisfaction survey in 2016, the product and quality are generally satisfied, but satisfaction with delivery is evaluated to be somewhat low.

Defect incurrence rate (%)

Company	2014	2015	2016
KC Cottrell Vietnam	2.8	2.9	2.9
Clestra Hauserman	0.32	0.29	0.46
NWL Pacific	1.0	1.0	1.0

Quality management system certification
11 companies

Average of defect rates
0.87%
(Based on 3 companies)

KC Cottrell
Central Power Plant Excellent Quality Award

Quality certifications

ISO 9001

KC Cottrell, Changchun KC Envirotech, Lodge Cottrell(UK), KC Cottrell Vietnam, KC Cottrell India, KC Air Filtertech, KC EnviroServices, KC Enviro Construction, KC Glass & Materials, Clestra Hauserman, NWL Pacific, KC Envirotech E&C, KC Solar Energy

Activities for mutual growth

KC Enviro Services

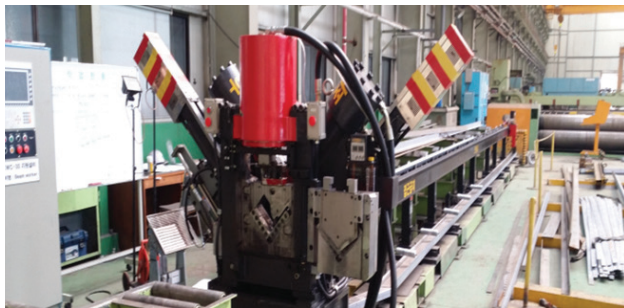
- Partnership and mutual growth system
Give opportunities to partner companies for new facility investment
- Strengthening competitiveness of partners
Forwarder evaluation by sales team

KC Eco Energy

- Support activity for partners
Frequent interviews for collection and forwarder

KOSEP World Class (KWC30)

KC Cottrell was selected as the KWC30 project of Korea South-East Power Co., Ltd since last 2015. They selected tasks by expanding the market, acquiring technology, investing, management innovation and information technology. They completed 7 tasks in 2016.



Automatic cutting facility development



Innovative task development and education

KWC-30 performance results



Business progress rate per specific tasks

Area	Promotion tasks	Achievement rate
Market expansion	Expanding the market Developing Renewable Energy and fine dust business	110
	Developing desulfurization equipment overseas market	111
Securing technology	Technology development Desulfurization system development	100
	Development of fine dust treatment equipment	100
Investment	Investment productivity/ technology improvement (facility improvement, etc.)	100
Management innovation informatization	Management Innovation Information Operation Innovation Project	100
	IT upgrade for business process improvement	100

06



Environment

The business processes and outcomes are closely related to the environment. KC Green Holdings and its affiliates research and manage not only the achievements of the business but also the business activities to positively affect the environment.

Environment protection cost
4.9 mUSD

Environment clean-up
708,373 ton

Energy recycling
395,242 ton

Waste recycling
166,785 ton

KC Hanmi Environment Report Publication



KC Hanmi Environment was selected for Environment Information Template Support Project by Korea Environmental Industry & Technology Institute, and published the 2015 Environment Report. Through the Environmental Report, they communicate the environmental policy and achievements to stakeholders and transparently disclose information on the environmental performance.

Affiliates' environment certificates

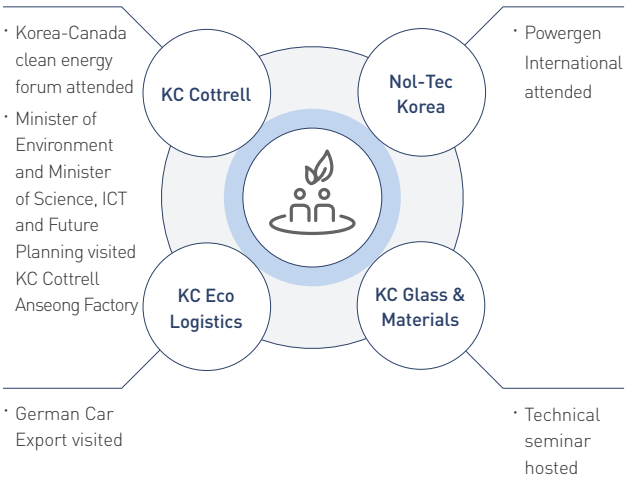
Environment management system (ISO14001)

TeleMetering System (TMS)

KC Cottrell, Lodge Cottrell(UK), KC EnviroServices, KC Eco Energy, KC Hanmi Environment, KC Landfill Service, KC Glass & Materials, NWL-Pacific, Clestra Hauserman

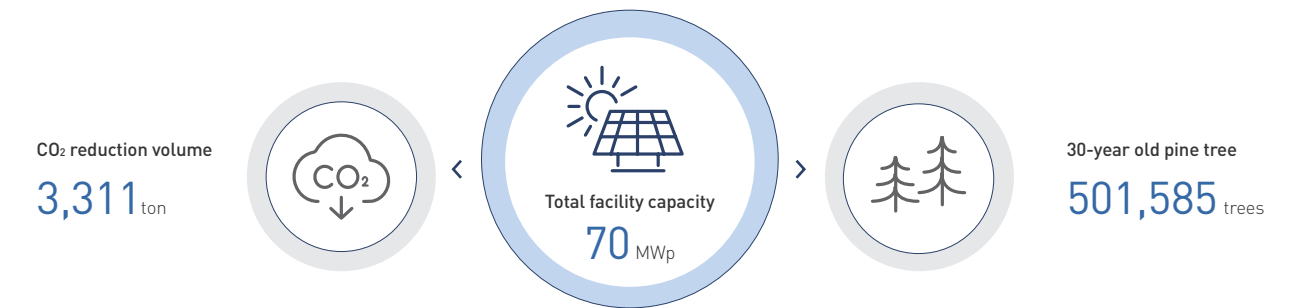
KC EnviroServices, KC Glass & Materials

2016 affiliates' environment communication activity



Environment performance

Solar power plant managed and operated by KC Solar Energy



Environmental performance aggregation

Affiliates	Category	Details	Process/ production volume	Unit	Remark
KC EnviroServices	Environment purification	Waste incineration	74,197	ton	
	Energy recycling	Reuse of waste heat (steam)	186,319	ton	
KC Landfill Service	Environment purification	Waste landfill	376,676	ton	
		Water pollutants (wastewater)	46,956	ton	Leachate treatment
KC Enviro Construction	Waste recycling	Construction waste recycling (aggregate, soil, scrap metal, non-ferrous, waste plastics, all including waste wood)	74,512	ton	
	Energy recycling	Reuse of waste heat (steam)	57,010	ton	
KC Hanmi Environment	Environment purification	Waste incineration	24,868	ton	
		Waste oil	27,347	ton	
		Wastewater	67,670	ton	
KC Eco Energy	Environment purification	Waste incineration	69,345	ton	
	Energy recycling	Reuse of waste heat (steam)	151,913	ton	
	Waste recycling	SRF production	53,543	ton	
KC Eco Logistics	Waste collection and transport	Waste collection volume	9,625	ton	
KC Glass & Materials	Waste recycling	Waste glass recycling	38,494	ton	
		Disposal of waste (waste mold, scrap metal, vinyl, phage, etc.)	236	ton	
		Water pollutants (wastewater)	20,668	ton	
	Environment purification	General waste (waste water treatment sludge, waste synthetic resin)	512	ton	
		Designated waste (dust, waste oil)	134	ton	
	Energy recycling	Installation of waste heat boiler (energy cost reduction)	2.6	TJ	
		Installation of waste heat boiler (greenhouse gas CO ₂ reduction amount)	133	TCO ₂	
	Renewable Energy production	Solar energy sales	173,782	Kwh	

Efforts to minimize environmental impact

KC EnviroServices completed the landfill in September, 2016. The completed landfill has been supplemented with a dome-shaped cover to compensate for the odor and dust generated by the landfill.



KC Enviro Services landfill

Specification of Landfill

	General workplace	Designation	Total area
Area (m ²)	7,536	2,531	10,163
Capacity (m ³)	107,601	30,267	137,601

KC Glass & Materials completed the furnace and machinery repair work in July 2016. By introducing the EBI system and automatic packaging and loading system, it is possible not only to improve the productivity but to operate the efficient manpower through the automation system. It helps to reduce the energy cost by improving the thermal efficiency through the improved facilities and to reduce the harmful exhaust gas.



KC Glass automatic packing machine

Specification after repair

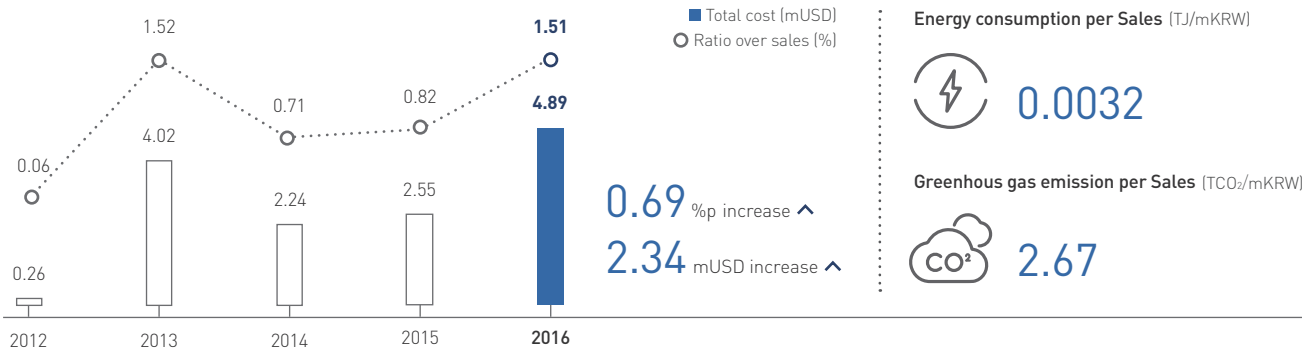
	Before repair	After repair
Useful lives	8 years	10 years
Max. discharge volume	150ton	155ton
Forehearth	Gas type	Electric type

Service and product improvement

Affiliate	Activity name	Effect
KC EnviroServices	Reuse of surface water	4,186 ton reuse
	Revolution control facility introduction	700Mwh reduction
KC Hanmi Environment	Steam recovery used in wastewater and waste oil treatment and utilization of water	52,575 tons of water recycling
	Recycled waste oil by acquiring recycling business license instead of simple incineration	1,800ton waste oil recycled
KC Eco Energy	Reuse incineration ash leachate as incineration ash conveyor	1,000 ton recycled
	Reduction of electricity consumption by incinerator conveyor demolition	202,000kwh reduction
KC Glass & Materials	Outlet tank temperature management	Water saving 3 ton
	Wood pallet recycling	About 28 thousand dollars reduced
	High efficiency LED lamp replacement	About 40 thousand dollars electricity cost reduced

Environmental impact

Environment protection cost



Energy consumption

(TJ)

Category	2012	2013	2014	2015	2016
Fuel energy	331	343	211	328	386
Electric energy	451	463	7,835	745	530
Other (Renewable Energy)	40	100	5,187	209	280
Total energy consumption	787	907	13,234	1,282	1,196
No. of reporting company		20	18	16	14

Water consumption

(ton)

Category	2012	2013	2014	2015	2016
General water	-	-	280,173	271,802	302,044
Recycling water	-	-	47,750	65,802	61,221
Total energy consumption	387,459	397,048	327,923	337,604	363,265
No. of reporting company		18	15	15	14

Greenhouse Gas discharge

(tCO₂eq)

Category	2012	2013	2014	2015	2016
Direct discharge	72,410	141,405	177,934	162,862.9	209,977.8
Indirect discharge	14,323	19,239	20,341	21,770	24,248.8
Total discharge	86,733	160,662	198,275	184,632.9	234,226.7
No. of reporting company		7	4	5	5

Water pollutant discharge

(mg/l)

Category	2012	2013	2014	2015	2016
COD	52.8	103.8	247	238.2	218.0
BOD	25.4	19.4	378	281.3	245.9
T-N	69.6	105.6	418	284.2	339.2
T-P	0.6	1.1	4	3.8	3.2
No. of reporting company	5	5	5	5	5

Waste generation

(ton)

Category	2012	2013	2014	2015	2016
General waste	19,966	101,903	30,395	47,643.6	103,371.6
Designated waste	1,516	3,859	30,673	7,629.6	94,922.5
Total waste generation	24,876	105,762	61,068	75,339.7	7,857.1
No. of reporting company		11	8	9	10

Air pollutant generation

Category	2012	2013	2014	2015	2016
NOx (ppm)	114.4	129.1	137	140	174.9
Sox (ppm)	41.0	36.2	37	50.4	32.3
Dust (mg/m ³)	8.4	26.5	20	14.8	5.4
No. of reporting company		7	6	5	5

* KC Thermal was omitted in the environment impact report company due to the change of internal management environment in 2016.

07



Community

KC Green Holdings and its affiliates carry out various social contribution activities with the interest of each company in order to fulfill their social responsibilities as a member of society and further contribute to solving social problems in the region.

Community development fund
78 thousand USD

Winter Internship Program
6 persons

KC Environment Service
Jeonnam type youth internship

Job creation

Internship program KC Green Holdings and KC Cottrell employ young winter interns each year to provide young people with practical experience in business and social life. Through the internship program, KC Green Holdings and its affiliates promote themselves and provide employees the opportunity to train their peers with the Peer Guide.



Site visit by winter interns

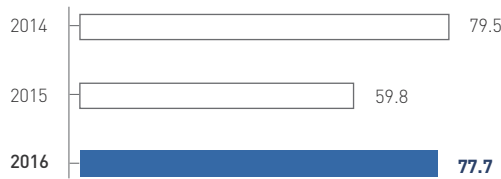
KC Cottrell Internship Program Table

Date	2016.01.04 ~ 2016.02.26
No. of Participants	6 persons
Program details	Divisional business support, Assignment implementation and presentation
Operating method	A peer guide from the assigning department is selected to help with the internship program and to review activities

Creation of local employment KC Eco Logistics contributed to the creation of jobs for local residents by employing local residents first when recruiting management and transportation staff. In addition, KC EnviroServices was selected as an excellent employment company in 2015, and was selected as a Jeonnam youth internship project sponsored by Yeosu-si. Through this project, KC EnviroServices contributed to the diversification of jobs in Jeollanam-do, prevention of local brain-drain and resolution of youth unemployment.

Social contribution fund status

(thousand USD)



Community contribution

Community development

KC Green Holdings	Korean Chamber Orchestra sponsor
	Seoul Special Olympics sponsor
Lodge Cottrell	Sir Oliver Lodge Prize at the University of Birmingham support
	Gurgaon and Kolkata Korean Association support
KC Cottrell India	Kolkata Children play school childcare teacher support
	Yeosu citizen sports festival sponsor
	Local residents filial festival and filial duty tourism support
KC EnviroServices	Yeosu environmental movement contribution
	Sangam Elementary School alumni athletic meeting and alumni support
	Helping people in need - Financial aid and rice support
	Gyeongnam opera club donation
KC Hanmi Environment	Local resident event support
	Participated in low-income slate roof improvement project
	Yangma, Taepyeong and Hwagae Village development fund
KC Eco Energy	Taepyung Village city gas installation fund and sports festival sponsor
	Local police development committee and Jeonju Provincial Police Agency School Violence Prevention Committee activities and support
KC Landfill Service	Hwaseong Chilgok aged society support
	Sagang Market open market event support
	Purchase of agricultural products (rice 600kg)
NWL Pacific	Group home support
	Our local society harmony event support
	Local festival and village filial tourism sponsor
KC Glass & Materials	Social enterprise support (Ace job, flower field)

Environment improvement activity

KC Cottrell India	Local residents' tree planting support adjacent to office
	Yeosu Sea revival support
KC EnviroServices	Sangam River revival support
	Nature conservation campaign (twice/ year)
KC Hanmi Environment	
KC Glass & Materials	Wave glass collecting activity

04

APPENDIX

KC Green Holdings' Affiliates

It introduces KC Green Holdings' affiliates who think about harmony between environment and people.

Environmental Engineering division



KC Cottrell Korea
Since its foundation in 1973 as a company specializing in atmospheric environment plants, it has been focusing on electric dust collectors to provide the best air pollution control facilities such as gas treatment facilities for removing sulfur and nitrogen oxides, industrial heat exchangers and powder transportation facility with electric dust collector at its center.



KC Cottrell Taiwan
From 20 years ago, it has carried out many projects in the field of air pollution prevention, mainly in EPC and A / S technical service support projects. Since 2008, it has been recognized for its technical strength by supplying electrostatic precipitators, desulfurization facilities, and sludge treatment facilities to Hsinta Power Plant in Taiwan.



KC Cottrell Vietnam
It is the first company specializing in environmental facilities in Vietnam. In order to protect the future environment of Vietnam with economic growth potential, it provides the best air pollution prevention equipment to the customers and provides management service.



KC Cottrell India
KC Cottrell India makes effort to pre-occupy the expanding environmental facilities market with increasing demand for large-scale electric power generation, is also taking a competitive edge in becoming a leader in the desulfurization denitrification equipment market with high potential growth rate.



KC Energy Technology
It engages in air environment facility business, wastewater treatment business, solid waste treatment business, new energy business and import and export trade business.



KC Air Filtertech
It makes effort to create clean air and clear sky on the basis of providing customized service in the field of air pollution prevention facilities (Dust Collector) such as Bag Filter, Bag Cage, Diaphragm Valve and Venturi.



Lodge Cottrell UK
In 1913, Lodge Cottrell successfully commercialized the world's first electrostatic precipitator and has maintained its reputation in the European atmosphere environment market for over 100 years and is expanding into renewable energy systems business such as biomass in accordance with the changing market.



Nol-Tec Systems
It supplies all equipment for almost all industries including transportation, unloading and mixing for powder and granular materials. It steadily generates profits by using air transportation system.



Yuyang Technologies
With recognition of safety as an important basis for the industry, Yuyang Technologies has the infrastructure to provide integrated services for the design, manufacture, installation, precision safety inspection and maintenance / maintenance of the unique pressure vessels / specific equipment in Korea.



KC Cottrell China
KC Cottrell China has delivered more than 150 products ranging from electrostatic precipitators, bag filters, desulfurization facilities, wastewater treatment facilities and waste incineration facilities to more than 150 cases throughout China and has consolidated its position in the rapidly growing Chinese atmosphere environment market.



Nol-Tec Korea
Bottom & Fly Ash is a specialist in the installation of powder conveying systems for various materials and provides total solutions related to the facilities. It has continued to achieve sustainable growth by expanding business area through specialized pneumatic handling system.

Environmental Service division



KC EnviroServices

It produces energy through stable treatment (incineration) of various general and designated wastes generated at industrial sites and manufactures waste catalytic material and restoration and restoration of landfill site. By the end of 2016, KC EnviroServices, KC Hanmi Environment and KC Eco Energy merged, and KC EnviroServices was newly launched as an integrated corporation.



KC Landfill Service

KC Landfill Service is engaged in the final disposal of waste under the slogan of safety and complete disposal. It is committed to the sustainable preservation of the global environment through strict compliance and responsible service.



KC Enviro Construction

It takes the lead in the recycling of construction waste through a waste treatment facility using new technology. The construction division of KC Enviro Construction was merged into the construction division of KC EnviroServices Co., Ltd. in August 2016 to enhance competitiveness and increase management efficacy.



Changwon Enertec

It supplies steam generated from the incineration of general waste, designated waste, and SRF production / incineration to our customers through facilities improvement and expansion of 40 billion.



KC Eco Logistics

KC Eco Logistics was established, which collects and transports waste in preparation for growth in the domestic waste disposal market. It has a vision to grow as a comprehensive environmental logistics company by forming a nationwide network in the future.

Environmental Manufacturing division



KC Glass & Materials

KC Glass & Materials is developing its growth engine by developing new materials such as Ceramic Board for Cook Top and optical glass material based on the production of various glass bottle containers and advanced glass materials (Glass Frits).



KC Thermal

KC Thermal supplies air-cooled heat exchangers and various kinds of industrial equipment to all over the world and makes efforts to increase the efficiency of energy use equipment such as oil refineries, petrochemical plants and power generation facilities through accumulated experience and know-how.



Clestra Hauserman

Clestra Hauserman creates a space that suits needs and circumstances, and further develops and manufactures cubicles and ceilings that consider health and the earth's environment through the use of eco-friendly materials.



KC Envirotech E&C (Fushun)

KC Envirotech E&C (Fushun) was established to secure a foothold in China and global environmental markets and produces and supplies the best air pollution prevention facilities and industrial structures at reasonable cost.



NWL Pacific

NWL Pacific is specialized in rectifier transformers, automatic control panels and plasma power supplies, which are essential components of electrostatic precipitators. It is committed to providing reliable products and services through continuous research and efforts over 80 years of technology.



Renewable Energy division

KC Solar Energy

KC Solar Energy contributes to reduction of greenhouse gas and prevention of global warming by conducting consignment operation and management (O&M) business for completed solar power plant as well as constructing MW class commercial power generation system for residential compact power generation.

Financial Information

Independent Auditor’s Report

The Board of Directors and Shareholders of KC Green Holdings Co., Ltd.
March 15, 2017

We have audited the accompanying consolidated financial statements of KC Green Holdings Co., Ltd. (the “Company”) and its subsidiary as of December 31, 2016 and 2015, the statements of comprehensive income, changes in equity and cash flows for the years then ended, and notes, comprising a summary of significant accounting policies and other explanatory information.

Management’s responsibility for the consolidated financial statements

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with Korean International Financial Reporting Standards, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

Auditors’ responsibility

Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We conducted our audits in accordance with Korean Standards on Auditing. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on our judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, we consider internal control relevant to the entity’s preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity’s internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of KC Green Holdings Co., Ltd. and its subsidiary as of December 31, 2016 and 2015 and of its financial performance and its cash flows for the years then ended in accordance with Korea International Financial Reporting Standards.

Emphasis

(1) Emphasis of auditor on the key audit items of order-made production industry
The key audit items of order-made production industry were selected as significant matters in the audit of the consolidated financial statements through professional decision and communication with the holding institution in accordance with the accounting audit practice guide 2016-1. The corresponding matters were matters handled when reporting the audit results on the whole consolidated financial statements from the perspective of the auditor on the whole consolidated financial statements. It does not provide a separate audit conclusion on the matter. And, as described in the above “Auditor’s responsibility”, the audit was carried out on the above consolidated financial statements in accordance with the Korea International Financial Reporting Standards and the review results were reported accordingly. As for the key audit items of order-made production industry, other audit procedure was carried out considering the question, analytic procedure and performance of the financial and accounting staffs of the consolidated entity.

A. General matters

As mentioned in Note 2 of the consolidated financial statements (important accounting policy), the consolidated entity recognized the contract revenue and contract cost as revenue and cost based on the progress rate of the current contract activity as of the closing date of the reporting period if the result of construction contract can be reliably estimated. As for the progress rate of the contract activity, the percentage is estimated by dividing the accumulated contract cost into the estimated total contract cost on the performed construction except for the contract cost that does not reflect the progress stage. If the added amount recognized on the accumulated cost (deducting recognized loss) exceeds the progress claim amount, it is marked as non-claim credit. And, the amount exceeding the added amount (deducting recognized loss) against the accumulated cost of the progress claim amount is marked as the excess claim credit.

B. Disclosure of contract information in which the contract revenue is more than 5% of the sales of the first half

The consolidated entity provides the contract information with more than 5% of the sales of the first half in Note 22 (construc-

tion contract). We determined that the contract disclosure is a significant matter in the audit of the current consolidated financial statements which requires attention of the users. Accordingly, the disclosure of the contract information of the consolidated entity is selected as a key audit item of order-made production industry.

We have conducted the following procedure in relation to the contract information of the consolidated entity.

- Comparison of total contract price in the construction contract, increase of contract profit, increase amount and question on the reason of price increase
- Check of entry of contract disclosure (contract name, contract date, estimated delivery date, progress rate, unclaimed construction price, trade receivable or construction receivable)
- Question on the contract secret or confidentiality on the non-disclosed contract information, disclosure with different method such as business report, whether there was disclosed or disclosure omission was reported to the audit committee.

C. Revenue recognition according to the input method

While total contract revenue is measured with the initially agreed contract price, it can be reduced when the penalty is borne in line with the delay of the completion period due to the responsibility of the company or due to the increase of construction change, compensation or incentive in the course of contract performance. Thus, the measurement of the contract revenue is affected by various uncertainties related to the results of future events. The construction revenue is affected by the progress rate measured based on the accumulated actuarial cost, and total contract cost is estimated based on the future estimates such as material cost, labor cost and construction period.

As mentioned in Note 22 of the consolidated financial statements (construction contract), the estimated change amount of the total contract revenue of the current term increased by 3,816 million won and the estimated change amount of the total contract cost increased by 1,768 million won. According to the change of the estimates, it is estimated that the profit or loss of the term will increase by 667 million won and future profit or loss will increase by 1,380 million won. We determined that the profit recognition by the input method of the consolidated entity is a significant matter in the audit of the current consolidated financial statements which requires attention of the users. Accordingly, the profit recognition by the input method of the consolidated entity is selected as a key audit item of order-made production industry.

Regarding the profit recognition according to the input method of

the consolidated entity, we reviewed the total contract profit and contract cost at the end of the current term and carried out the following procedures to review the occurrence possibility and estimates of delay compensation.

- Payment condition of the construction contract, delay compensation, delivery period and other obligations
- Construction change, compensation, incentive and penalty of the contract process, question of price and review of evidential resources
- Review of question and evidential resources by arrival of due according to the contract and financial situation of the client
- Whether reliable measurement on the estimated total contract cost is possible and review of question and evidential resources on the intense of direct relation between accumulated actuarial cost and progress of construction
- Review of estimated change and comparison of total contract revenue and cost and analytic procedure such as comparison with companies in the same industry

D. Uncertainty of total contract price estimation (or estimated construction cost)

Total construction cost is estimated based on future estimates such as material cost, labor cost and construction period. Estimated amount of total contract cost in which the construction is not finished as of the end of the current term is 802.3 billion won, and if the estimate increases 5%, the related profit or loss decreases 40.1 billion won.

We determined that the uncertainty of the total contract price of the consolidated entity is a significant matter in the audit of the consolidated financial statements. Accordingly, the uncertainty of the total construction cost of the consolidated entity is selected as a key audit item of order-made production industry.

To review the estimate of the total contract cost of the current consolidated entity, the following procedure is carried out.

- Payment condition of the construction contract, delay compensation, delivery period and other obligations
- Review of question and evidential resources of process delay, work quantity increase causes and impact on total contract price
- Review of estimated change and comparison of total contract revenue and cost and analytic procedure such as comparison with companies in the same industry
- Review of question and evidential resources on the effect of the estimated change of total contract cost on the profit and loss of the term, future profit or loss and unclaimed construction

E. Calculation of construction progress rate

As mentioned in Note 22 of the consolidated financial statements

(construction contract), the estimated change amount of the total contract cost during the term increased by 1.768 million won and the accumulated contract cost as of the end of the term is 881.1 billion won. We determined that the calculation of the construction progress rate of the consolidated entity is a significant matter in the audit of the consolidated financial statements. Accordingly, the calculation of the construction progress rate of the consolidated entity is selected as a key audit item of order-made production industry.

To review the suitability of the total contract cost and accumulated contract cost affecting the calculation of the construction progress rate, the following procedure is carried out.

- Analytic review such as comparison of period of construction progress rate and comparison with companies in the same industry
- Review of question and evidential resources of the effect of cause of construction cost increase and prospect and relevant cause on the estimated total contract cost and construction progress rate
- Reflection of the significant change of the estimated total contract cost at the end of reporting period and questions on its content
- Occurrence of cost excluding accumulated actuarial contract cost and the estimated total contract cost that are not reflected its progress level among the actuarial cost and question on size and accounting process

F. Possibility of collection of unclaimed construction price

As mentioned in Note 22 of the consolidated financial statements (construction contract), the balances of the end of the previous term and the current term of the unclaimed construction price (Before set-off of construction loss liabilities) are 43,507 million won and 28,693 million won respectively and it increased 151% during the current term. We determined that the possibility of collection of the unclaimed construction price as a significant matter of the audit of the consolidated financial statements, which requires attention of the users. Accordingly, the disclosure of the contract information of the consolidated entity is selected as a key audit item of order-made production industry.

We carried out the analytic review on the previous amount over the current term regarding the accumulated construction profit, total construction estimated cost and total construction actuarial cost in relation to the unclaimed construction price during the current term, and we asked the management on the cause of increase of the unclaimed construction price and possibility of collection. And, we performed the following procedure on the large construction contract which has huge difference between the contract payment condition and construction progress rate using the external professionals and reviewed if it fits to the explanation of the management.

- Payment condition of the construction contract, delay compensa-

tion, delivery period and other obligations

- Occurrence of event affecting negative impact on the collection possibility of the unclaimed construction price such as the arrival of due date of payment and financial difficulties of the client and question on the accounting process and review of evidential resources
- Question on the comparison and change between previous and current term of the distribution of the estimated total contract cost calculation and the construction actuarial cost and review of evidential resources

G. Accounting process on the construction change

While total contract revenue is measured with the initially agreed contract price, it can be increased by construction change, compensation or incentive in the course of the contract and also can be reduced if the penalty is borne in line with the delay of the completion period due to the responsibility of the company. Thus, the measurement of the contract revenue is affected by various uncertainties related to the results of future events. The construction entity includes the contract revenue if the revenue price by the construction change is highly possible to change and if it is highly possible to satisfy performance criteria together with reliable measurement. We determined that the accounting process on the change of construction of the consolidated entity as a significant matter of the audit of the consolidated financial statements, which requires attention of the users. Accordingly, the accounting process by the change of construction is selected as a key audit item of order-made production industry.

To review the construction change accounting and disclosure details of the consolidated entity, the following procedure is carried out.

- Question on the possibility of approval of revenue price by change of construction of the client
- Question on the reflection of the effect of construction change on the estimated total contract cost (changed amount) and progress rate calculation and review of evidential resources

Accounting Firm CHAM
13 Seowun-ro Seocho-gu Seoul (Seocho-gu, Jungang Royal)
CEO Kim, Gyeong



This report is effective as of the audit report date. Certain subsequent events or circumstances, which may occur between the audit report date and the time of reading this report, could have a material impact on the accompanying consolidated financial statements and notes thereto.

Consolidated Statement of financial position

As Of 12/31/2016
As Of 12/31/2015
As Of 12/31/2014
(Unit : KRW)

	FY 2014	FY 2015	FY 2016
1. Assets			
Non-current assets	229,701,389,498	272,084,745,037	294,504,217,721
Property, plant and equipment	146,482,889,068	169,333,692,058	179,466,552,879
Investment in real estate	12,286,285,493	12,270,728,366	12,176,752,837
Non-current account receivables	0	16,577,967,501	13,168,656,965
Investments in associates	15,395,885,264	14,580,775,689	26,304,573,215
Goodwill, gross	34,759,670,635	37,287,647,264	34,182,948,415
Other intangible assets	1,124,625,160	989,304,335	4,219,968,373
Derivatives financial assets	0	77,497,729	0
Deferred tax assets	7,568,695,407	11,745,670,908	5,217,684,745
Other non-current financial assets	10,986,882,010	8,371,878,147	16,819,578,114
Other non-current non-financial assets	1,096,456,461	849,583,040	2,947,502,178
Current assets	207,807,472,416	178,230,019,413	168,246,790,048
Inventories	12,576,130,506	7,958,956,122	6,410,010,406
Account receivables	73,547,104,663	69,600,381,202	61,639,350,456
Due from customers for contract work	46,912,644,721	25,854,919,384	42,393,074,781
Other current receivables	17,948,127,959	20,177,643,294	16,937,699,307
Current derivative financial assets	274,770,976	148,086,734	0
Current tax assets	463,398,977	2,465,230,938	597,559,943
Other current financial assets	10,979,519,644	10,877,784,597	4,158,437,988
Cash and cash equivalents	45,105,774,970	41,147,017,142	36,110,657,167
Total assets	437,508,861,914	450,314,764,450	462,751,007,769
2. Equity			
Equity attributable to owners of the parent	145,345,345,792	153,879,162,562	158,042,571,097
Issued capital	11,217,490,000	11,217,490,000	11,217,490,000
Capital surplus	50,754,464,811	45,386,780,020	44,981,617,421
Other reserves	5,437,043,323	6,052,186,041	7,560,539,925
Retained earnings	77,936,347,658	91,222,706,501	94,282,923,751
Non-controlling interests	48,753,285,976	41,942,425,204	50,276,820,454
Total equity	194,098,631,768	195,821,587,766	208,319,391,551
3. Liabilities			
Non-current liabilities	83,423,518,804	105,823,259,275	102,322,711,952
Other non-current provisions	20,511,312,277	21,038,606,469	23,962,948,835
Other non-current liabilities	0	2,711,925,960	0
Non-current account payables	0	9,641,910,259	6,459,039,574
Long-term borrowings, gross	48,574,306,000	56,246,307,000	51,669,548,059
Convertible bond	2,006,168,210	2,073,262,976	2,143,381,730

	FY 2014	FY 2015	FY 2016
Post-employment benefit obligations	8,686,622,578	8,521,906,518	9,792,302,290
Derivative financial liabilities	21,566,318	6,926,793	96,728,877
Non-current tax liabilities	0	0	0
Other non-current financial liabilities	3,623,543,421	5,582,413,300	8,198,762,587
Current liabilities	159,986,711,342	148,669,917,409	152,108,904,266
Other Current provisions	0	12,504,039	133,229,754
Short-term borrowings	29,948,478,687	23,250,724,065	28,885,246,113
Account payables	66,613,554,521	46,747,805,483	59,487,844,214
Other current liabilities	19,720,442,297	25,052,783,170	20,053,079,260
Advance from customers	34,465,329,523	44,192,169,020	28,318,075,504
Current tax liabilities	4,610,190,927	1,737,869,233	2,894,751,252
Derivative financial liabilities	175,915,387	51,991,421	3,862,888,189
Current portion of long-term liabilities	4,452,800,000	7,613,590,000	8,466,789,980
Other current non-financial liabilities	0	10,480,978	7,000,000
Total liabilities	243,410,230,146	254,493,176,684	254,431,616,218
4. Total equity and liabilities	437,508,861,914	450,314,764,450	462,751,007,769

Consolidated Subsidiaries on the Period

Company Name	FY 2014	FY 2015	FY 2016
KC Greenholdings Co.,Ltd.	○	○	○
KC Cottrell Co.,Ltd.	○	○	○
KC Cottrell China Co., Ltd.	○	○	○
KC Cottrell Taiwan Co.,Ltd.	○	○	○
Lodge Cottrell Ltd.	○	○	○
KC Cottrell Inc.	○	×	×
KC Cottrell India Pvt. Ltd.	○	○	○
KC Cottrell Vietnam Co.,Ltd.	○	○	○
Nol-Tec Systems,Inc.	○	○	○
KC Enviro Service Co.,Ltd.	○	○	○
KC Landfill Serveces Co.,Ltd.	○	○	○
KC Environmental Construction Co.,Ltd	○	○	○
KC Catalyst Services Co.,Ltd.	○	○	○
KC Hanmi Enviro Services Co.,Ltd.	○	○	×
KC EcoEnergy Co.,Ltd	○	○	×

Company Name	FY 2014	FY 2015	FY 2016
KC Glass Co.,Ltd.	○	○	○
KC Solar Energy Co.,Ltd.	○	○	○
KC Green Energy Co., Ltd.	○	○	○
Nol-Tec Korea Co.,Ltd	○	○	○
KC Airfiltertech Co.,Ltd	○	○	○
KC Eco Logistics Co., Ltd	○	○	○
KS Solar 2 Co., Ltd.	○	×	×
KC Thermal Co., Ltd.	×	○	○
KC BioChemical Co., Ltd.	×	○	×
KC Africa[Pty] Ltd	×	○	○
Echo Development Co., Ltd.	×	×	○
Yuyang Technologies. Co., Ltd.	×	×	○
KCA Power Service (Pty) Ltd.	×	×	○
Consolidated Subsidiaries on the perion	22	23	23

Consolidated Statement of comprehensive income

From 01/01/2016 To 12/31/2016
From 01/01/2015 To 12/31/2015
From 01/01/2014 To 12/31/2014
[Unit : KRW]

	FY 2014	FY 2015	FY 2016
1. Operating revenue	384,115,293,983	377,659,976,421	391,371,451,730
Sales	381,800,057,874	373,391,951,570	384,458,617,331
Gain from valuation of associates	771,100,876	1,502,005,987	1,503,874,015
Rental income	1,544,135,233	2,766,018,864	5,408,960,384
2. Operating Expense	366,311,091,561	361,538,446,867	365,499,473,346
Cost of goods sold	322,769,686,715	314,540,753,758	318,312,477,460
Loss from valuation of associates	1,219,659,161	215,415,277	1,688,001,050
Selling, general administrative expenses	42,321,745,685	46,782,277,832	45,498,994,836
3. Operating Income(Loss)	17,804,202,422	16,121,529,554	25,871,978,384
4. Other income	5,559,947,065	7,554,308,320	7,417,301,749
5. Other loss	6,158,983,545	9,129,551,364	13,228,319,206
6. Finance income	1,042,320,413	1,081,705,039	864,808,564
7. Finance costs	2,334,166,918	3,028,484,178	3,734,529,518
8. Net profit before income tax	15,913,319,437	12,599,507,371	17,191,239,973
9. Income tax expense	15,887,516,116	[813,546,088]	10,453,493,413
10. Profit (loss)	25,803,321	13,413,053,459	6,737,746,560
11. Other comprehensive income(loss)			
Items that will not be reclassified subsequently to income(loss)	[3,787,154,411]	1,215,068,667	887,581,035
Re-measurement factor on defined benefit plans	[3,787,154,411]	1,215,068,667	887,581,035
Items that will be reclassified subsequently to income(loss)	522,808,151	289,351,013	1,341,094,112
Currency translation differences	485,408,166	569,334,035	1,402,206,851
Equity changes in equity method investee	[43,599,877]	[326,126,093]	[41,304,665]
Net change in fair value of financial assets	78,851,975	34,724,242	[25,210,973]
Net change in fair value of interest swap	2,147,887	11,418,829	5,402,899
Total other comprehensive income(loss)	[3,264,346,260]	1,504,419,680	2,228,675,147
12. Profit (loss), attributable to			
Owners of the parent	2,447,603,158	13,605,615,532	4,669,664,309
Non-controlling interest	[2,421,799,837]	[192,562,073]	2,068,082,251
Profit (loss)	25,803,321	13,413,053,459	6,737,746,560
13. Total comprehensive income	[3,238,542,939]	14,917,473,139	8,966,421,707
14. Total comprehensive income attributable to			
Owners of the parent	920,465,990	14,190,156,818	6,165,183,563
Non-controlling interests	[4,159,008,929]	727,316,321	2,801,238,144
Total comprehensive income	[3,238,542,939]	14,917,473,139	8,966,421,707
15. Earnings per share			
Basic earnings (loss) per share	111	615	211
Diluted earnings per share	111	615	211

Independent Assurance Statement

Purpose

The purpose of this assurance report is to identify any major errors or biases in the Report, to conduct independent assurance procedures to determine whether the sustainable management issues of KC Green Holdings were appropriately reported, and to present an assurance opinion.

Responsibilities and Independence

This Report contains matters on KC Green Holdings’ sustainable management efforts, achievements and future plans in 2016. All responsibility regarding the drafting of the Report lies with KC Green Holdings.

In conducting assurance procedures on the Report and providing assurance opinions to the board of directors, BISD has no management-related interests in profits with KC Green Holdings, aside from carrying out third-party assurance, in order to maintain independence and autonomy.

Assurance Standards and Restrictions

BISD performed a Type 1, Moderate Level assurance in accordance with AA1000AS(2008) and considered three accountability principles (inclusivity, materiality and responsiveness) and the principles for defining report content and report quality of the Global Reporting Initiative (GRI) G4 guidelines.

Physical inspections were conducted at the headquarters of KC Green Holdings located in Seoul. The scope of the assurance evaluation was limited to only those performances stated in the Report and excludes data from previous years and data reported online. Furthermore, greenhouse gas data that has already been verified from another third-party organization was not subjected to the assurance evaluation.

Major Assurance Procedures

For the assurance process, KC Green Holdings’ employees were engaged in interviews. Results from the interviews and other relevant documents provided by KC Green Holdings were examined. Major assurance procedures undertaken are as follows:

- Review of application of company’s internal sustainability report standards
- Review of the Report contents and the information collection process
- Review of the materiality test process, core issues and company policies
- Interviews with employees and check of specific data through physical inspection

Opinions

BISD performed the assurance evaluation in accordance with the procedures identified above, and the Report was modified by KC Green Holdings if and when deemed necessary. Based on the assurance evaluation, BISD is not aware of any significant errors in the Report and confirmed that the Report was written in accordance with GRI G4 guidelines (Core option).

The opinions of BISD produced as a result of its assurance evaluation and in consideration of the AA1000APS accountability standards are explained below.

- Inclusivity:** Does KC Green Holdings adhere to the principle of stakeholder engagement in order to ensure a responsible and strategic response in advancing sustainability management?
- KC Green Holdings gathered major concerns and opinions from core

The Business Institute for Sustainable Development (BISD), led by the Korea Chamber of Commerce & Industry, was requested by KC Green Holdings to serve as an independent ‘third-party assurance institute’ for the ‘2017 KC Green Holdings Sustainable Management Report’ (hereinafter ‘Report’), and submits the assurance statement as follows.

- stakeholders, including its customers, employees, shareholders, local communities, partners and government.
- BISD is not aware of any significant stakeholder groups that were omitted from the process of gathering sustainability management issues through KC Green Holdings’ stakeholder communication channels.

- Materiality** : Does KC Green Holdings include material issues that affect stakeholders in the entire spectrum of sustainability management in the Report?
- KC Green Holdings identified major issues through a survey from each stakeholder group in the process of the materiality test.
 - BISD is not aware of any significant issues that were omitted from the process.

- Responsiveness** : Does KC Green Holdings respond appropriately to stakeholder issues?
- KC Green Holdings has acknowledged the impact of its business decisions on stakeholders and responded properly with coherent actions. The Report presents related performances during the reporting period.
 - BISD is not aware of any violations of the principle of responsiveness in KC Green Holdings’ response to major sustainability management issues or performances that are described in the Report from the perspective of materiality.

Recommendations

BISD makes the following recommendations within a scope that will not affect the assurance results:

- In 2012, KC Green Holdings developed a 3-step implementation plan to grow into a sustainable company and reported the outcomes in the Report. BISD recommends KC Green Holdings establish mid and long-term sustainable management goals and plans based on its activities over the past five years and communicate with stakeholders continually.
- The Report contains the sustainable management performance outcomes of KC Green Holdings and around 30 domestic and overseas affiliates. As the scope of business expands and mergers and acquisitions actively take place, it is recommended that KC Green Holdings and all its affiliates collect and manage sustainable management data with the same criteria.
- The importance of CSR in the supply chain for the continuous growth of the company is gradually increasing. BISD recommends that KC Green Holdings and its affiliates develop CSR indicators such as environment, human rights, anti-corruption etc., in order to enhance the sustainable management performance of partners.

June 2017
BISD
President
Park, Dong Min



GRI G4 Index

1. General Index

	G4.0	Indicators	Page	Note
Strategy and Analysis	G4 1	Statement from the most senior decision-maker	13	
	G4 2	Provides a description of Key impacts, risks, and opportunities	13	
Organizational Profile	G4 3	Report the name of the organization	14	
	G4 4	The primary brands, products, and services	6-7	
	G4 5	The location of the organization’s headquarters	14	
	G4 6	The number of countries where the organization operates, and names of countries where either the organization has significant operations or that are specifically relevant to the sustainability topics covered in the report	8-9	
	G4 7	The nature of ownership and legal form	14	
	G4 8	The markets served (including geographic breakdown, sectors served, and types of customers and beneficiaries)	8-9	
	G4 9	Scale of the organization	8-9	
	G4 10	Total workforce	29	
	G4 11	The Ppercentage of total employees covered by collective bargaining agreements	29	
	G4 13	Any significant changes during the reporting period regarding the organization’s size, structure, ownership, or its supply chain	N/A	
	G4 14	Whether and how the precautionary approach or principle is addressed by the organization	N/A	
	G4 15	List Externally developed economic, environmental, and social charters, principles, or other initiatives to which the organization subscribes or endorses	N/A	
	G4 16	Memberships in associations and/or national/international advocacy organizations in which the organization	54	
Idnetified Material Aspects and Boundarie	G4 17	All entities included in the organization’s consolidated financial statements or equivalent documents or whether any entity included in the organization’s consolidated financial statements or equivalent document is not covered by the report	48	
	G4 18	The process for defining the report content and the Aspect Boundary and how the organization has implemented the reporting principles for defining report content	17	
	G4 19	List all the material Aspects indentified in the process for defining report content	17	
	G4 20	For each material Aspect, reprot the Aspect Boundary within the organization	20-21	
	G4 21	For each material Aspect, reprot the Aspect Boundary outside the organization	20-21	
	G4 22	The effect of any restatements of information provided in previous reports, and the reasons for such restatements	N/A	
	G4 23	Significant changes from previous reporting periods in the Scope and Aspect Boundary	2	
Stakeholder Engagement	G4 24	List of stakeholder groups engaged by the organization	16	
	G4 25	Basis for identification and selection of stakeholders with whom to engage	16	
	G4 26	Organization;’s approach to stakeholder engagement, including frequency of engagement by type and by stakeholder group	16	
	G4 27	Key topics and concerns that have been raised through stakeholder engagements, and how the organization has responded to those key topics and concerns, including through its reporting	16	
Report Profile	G4 28	Reporting period	2	
	G4 29	Date of most recent previous report	2	
	G4 30	Reporting cycle	2	
	G4 31	Provide the contact point for questions regarding the report or its contents	2	
	G4 32	GRI Index (‘In accordance’ option, GRI Content Index, and the external assurance report)	51-53	
	G4 33	Policy and current practice with regard to seeking external assurance for the report, the scope and basis of any external assurance provided if not included in the assurance report accompanying the sustainability report, relationship between the organization and the assurance providers, whether the highest governance body or senior executives are involved in seeking assurance for the organization’s sustainability report	50	
Governance	G4 34	Report the governance structure of the organization, including committees of the highest governance body	15	
	G4 51	Peport the remuneration policies for the highest governance body and senior executives	15	
	G4 52	Report the process for determining remuneration	15	
Ethics and Integrity	G4 56	Describe the organizational norms of behavior such as codes of conduct or codes of ethics	27	

2. Specific Index

Category	Aspect	Aspect no.	Indicators	Page	Note
DMA	DMA	G4 DMA	Report why the Aspect is material, how the organization manages the material Aspect of its impact, and the evaluation of the management approach	22,24,27,29, 31,33,37	
Economy	Economic Performance	G4 EC1	Direct economic value generated and distributed	4-5	
		G4 EC3	Coverage of the organization's defined benefit plan obligations	30	
		G4 EC4	Financial assistance received from government	24	
	Indirect Economic Impacts	G4 EC8	Significant indirect economic impacts, including the extent of impacts	5	
Environment	Materials	G4 EN1	Materials used by weights of volume	34	
		G4 EN2	Percentage of materials used that are recycled input materials	34,35	
	Energy	G4 EN3	Energy consumption within the organization	36	
		G4 EN5	Energy intensity	36	
		G4 EN6	Reduction of energy consumption	35	
		G4 EN7	Reduction in energy requirements of products and services	34	
	Water	G4 EN8	Total water withdrawal by source	36	
		G4 EN10	Percentage and total volume of water recycled and reused	36	
	Emissions	G4 EN15	Direct greenhouse gas emiisions	36	
		G4 EN16	Indirect greenhouse gas emissions	36	
		G4 EN18	Greenhouse gas emissions intensity	36	
		G4 EN19	Reduction of greenhouse gas emissions	36	
		EN20	Emissions of ozone-depleting substances	N/A	
		G4 EN21	Nox, Sox and other significant air pollutant emissions	36	
	Effluents and Waste	G4 EN22	Total water discharge by quaility and destination	36	
		G4 EN23	Total weight of waste by type and disposal method	34	
		G4 EN24	Total number and volume of significant spills	N/A	
		G4 EN25	Weight of transproted, imported, exported, or treated waste deemed hazardous	N/A	
	Products and Services	G4 EN27	Extent of impact mitication of environmental impacts of products and services	34,35	
	Compliance	G4 EN29	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations	28	
	Overall	G4 EN31	Total environmental protection expenditures and investments by type	36	
	Environmental Grievance Mechanisms	G4 EN34	Number of grievances about environmental impacts filed, addressed, and resolved through formal grievance mechanisms	N/A	
Society - Labor Practices and Decent Work	Employment	G4 LA1	Total number and rates of new employee hires and employee turnover by age group, gender, and region	29	
		G4 LA3	Return to work and retention rates after parental leave, by gender	29	

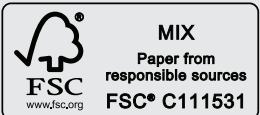
Category	Aspect	Aspect no.	Indicators	Page	Note
Society - Labor Practices and Decent Work	Labor/Management Relations	G4 LA6	Type of injury and rate of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fataities by region an gender	N/A	
		G4 LA7	Workers with high incidence or high risk of diseases related to their occupation	23	
	Training and Education	G4 LA9	Average hours of training per year per employee, by gender and by employee category	29	
		G4 LA10	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in manageing career endings	30	
		G4 LA11	Percentage of employees receiving regular performance and career development reviews, by gender and by employee category	N/A	
		G4 LA12	Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, or other indicators of diversity	29	
	Equal remuneration for women and men	G4 LA13	Ratio of basic salary and remuneration of women to men by employee category, by significant locations of operation	29	
	Labor Practices Grievance Mechanism	G4 LA16	Number of grievances about labor practices filed, addressed, and resolved through tormal grievance mechanism	N/A	
Society - Human Right	Investment	G4 HR2	Total hours of employee training on human rights policies or procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained	28	
	Non-discrimination	G4 HR3	Total number of incidents of discrimination an corrective actions taken	N/A	
	Human Rights Grievance Mechanisms	G4 HR12	Number of grievances about human rights impacts filed, addressed, and resolved through formal grievance mechanisms	N/A	
Society -Society	Local Communities	G4 S02	Operations with significant actual and potential negative impacts	N/A	
	Anti-corruption	G4 S04	Communication and training on anti-corruption policies and procedures	28	
	Anti-competitive Behavior	G4 S07	Total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes	N/A	
	Compliance	G4 S08	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations	N/A	
Society-Product Responsibility	Customer Health and Safety	G4 PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning the health and safety impacts of products and services during their life cycle, by type of outcomes	N/A	
		G4 PR4	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labiling by typeof outcomes	N/A	
	Products and Services Labeling	G4 PR5	Results of surveys measuring customer satisfaction	31	
		G4 PR6	Sale of banned or disputes products	N/A	
	Marketing Communication	G4 PR7	Total number of incidents of non-compliance with regulation and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship, by type of coutcomes	N/A	
		G4 PR8	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data	N/A	
	Customer Privacy Compliance	G4 PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services	N/A	

Registered Association

Company	Membership
KC Green Holdings	Listed company association, Korea CFO association, Korea International Trade Association, Korea Plant Industry Association, Korea Environment Engineer Association, Korean Environment Industry Association, Korea Preservation Association
KC Cottrell Korea	Korea Environmental Engineering Association, Korea Electric Power Technology Association, Korea Environment Industry Association, Doosan Heavy Industry Partner Association, Korea Machinery Industry Promotion Association, Korea Construction Engineer Association, Korea CO2 Collection and Storage Association, Korea CFO Association, Korea Construction Association, Korea Electric Corporation Association, Korea Middle Standing Business Association, Korea Central American Association, Korea International Trade Association
KC Air Filtertech	Korea Industrial Technology Association
KC Cottrell India	Korean Association in Delhi, Kolkata in India, KOTRA & KOCHAM India, Korea India Green Tech Forum, Indo–Korean CSR Forum
KC EnviroServices	Korea Industrial Waste Resource Cooperative Association, Yeosu Industrial Complex, Yeosu Small & Medium Business Association, Machinery Construction Mutual Aid Association, Professional Construction Mutual Aid Association, Professional Construction Association
KC Hanmi Environment	Korea Industrial Waste Management Association, Korea Industrial Water Treatment Association, Changwon Chamber of Commerce and Industry, Masan Free Trade Zone Business Association, Kyungnam Environmental Technology Association, Korea Fire Safety Association, Korea Electrotechnology Association, Korea Energy Technology Association, Kyungnam Opera Sponsorship Association, Gyeongnam Joint Charity, Social welfare community chest
KC Eco Energy merged	Jeonbuk Environmental Protection Association, Jeonbuk Environmental Technology Council, Jeonju Business Environment Council, Korea Industrial Waste Resource Cooperation Association, Korea Construction Resources Association, Korea Construction Waste Mutual Aid Association, Korea Electrotechnology Association, Korea Energy Technology Association, Jeonju Chamber of Commerce and Industry, Jeonju Wanju Industrial Complex Fire Safety Council, Jeonju Industrial Safety and Health Management Council
KC Eco Logistics	Gyeonggi Freight Forwarding Association, Gyeonggi Freight Forwarding Association
KC Landfill Service	Korea Industrial Waste Landfill Association
KC Enviro Construction	Korea Construction Waste Exemption Association, Korea Construction Resources Association, Korea Professional Construction Association
KC Glass & Materials	Korea Industrial Safety Association, Daejeon Chungnam Environmental Preservation Association, Korea Fire Protection Safety Association, Korea Quality Foundation, Korea Auto Bottle Maker Association, Korea Industrial Technology Promotion Association, Korea Component Materials Investment Association Council, Korea Ceramic Technology Institute, Research Director Association, Chamber of Chungnam North Commerce and Industry, Overseas Sacrifice Memorial Association, Korea International Trade Association, Korea Electric Power Technology Association, Association of Factory Manager, Chungnam Economic Forum Association
NWL Pacific	Korea International Trade Association, Korea Electric Corporation, Korea Ozone Association
KC Solar Energy	Korea Photovoltaic Industry Association

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