SAMSUNG
ELECTRO-MECHANICS

150, Maeyoung-Ro, Youngtong-Gu, Suwon-Si, Gyeonggi-Do,
Republic of Korea, 443-743
Tel. 82-31-210-5114
www.samsungsem.com

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Samsung Electro-Mechanics Carbon Management Report 2013

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ELECTRO-MECHANICS

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Carbon Management Report 2013

Blue Technology
for Tomorrow

SAMSUNG
ELECTRO-MECHANICS

About this Report

Samsung Electro-Mechanics(SEM) has made various efforts to realize global crisis by climate change and reduce unavoidable greenhouse gas(GHG) emission and energy use by business activities. This report is the first carbon management report disclosing carbon management performance of SEM. We will continue to improve the performance in sustainability management through a leading action to the issue of climate change and fulfill corporate social responsibility in the future through communication with various stakeholders.

Reporting Guidelines

This report is written based on 〈Guide for Carbon Management Report of Domestic Enterprise〉 published by Business Institute for Sustainable Development of Korea Chamber of Commerce & Industry and utilizes relevant indicators from 〈GHG and Energy Target Management Operating Guideline〉, 〈CDP(Carbon Disclosure Project) 2013〉 and 〈GRI(Global Reporting Initiative) G3.1 Guidelines〉.

Reporting Period

Reporting period of this report is from January 2012 to December 2012 but it includes the previous activities as well in case they are considered meaningful. In the case of quantitative performance, information for three years from 2010 to 2012 was recorded for comparison with past performance.

Reporting Scope

This report contains activities and performance coping with climate change in domestic and overseas plants including headquarters.

Assurance of the report

The information of carbon management report was verified by Business Institute for Sustainable Development of Korea Chamber of Commerce &Industry and the information about GHG emission in this report got third-party verification from BSI Group Korea. Please refer to the verification report (pages 46-49) for specific assurance result.

Additional information on the report and feedback

This report has been published in both Korean and English and can be read by SEM's Homepage (http://www.samsungsem.com). Please feel free to contact us at the following contacts about the report.

- Homepage http://www.samsungsem.com
- Address Green Management Team, Corporate Management Staff, SEM
  150, Maeyoung-Ro, Youngtong-Gu, Suwon-Si, Gyeonggi-Do, Republic of Korea, 443-743
- E-mail greenroad@samsung.com
- Tel +82-31-210-6177
- Fax +82-31-300-7900 (P.O. Box 7159)

Contents

CEO Message

To our domestic and international stakeholders, who sincerely support and encourage SEM.

Greetings!

It is our pleasure to announce activities to cope with climate change and performance in each sector by publishing the first carbon management report this year.
After having published the first Citizenship Report in 2006, we reflected assessment and advice received from stakeholders in the management activities and established a management system certification in accordance with the global standards to cope with climate change.

Recently the interest about climate change issues of various stakeholders like government, customers and global investors tends to increase as well as the crisis of the global business environment like extreme currency fluctuations and energy price hikes is being accelerated due to slowdown in domestic economic growth resulting from the prolonged downturn in domestic demand and the delayed economic recovery in developed countries.

SEM has solidified the foundation of sustainable growth through reinforcement of manufacturing competitiveness, differentiation of key parts, introduction of new products and development of new customers based on enterprise-wide concentration of the internal management capabilities and efficient use of resources.

Also we achieved performance, reducing 250 thousand tCO_2e and saving cumulative KRW 117.7 billion in energy cost as a result of the analysis of risks and opportunities in order to effectively cope with global climate change issues as well as approximately 2,000 energy saving projects over past five years based on the carbon management vision and the mid-term strategy for low-carbon management.

Based on these results, SEM has also demonstrated itself to be a responsible model company by being included in the 'Carbon Management Leaders Club' for three consecutive years, in the 'Dow Jones Sustainability World Index' for four consecutive years and in the 'FTSE4Good Index' in 2011 as well as selected as 'No. 1 competitive company for climate change' in domestic.

SEM will welcome the sustainable future with the following activities to supply cutting-edge electronic parts and fulfill our responsible role as a global company:

First, we will ensure internal stability of a low-carbon management system.
We will optimize management activities like strengthening of enterprise-wide management system by objective and energy efficiency improvements to effectively cope with the regulation such as a power usage limitation for the control of energy supply and demand by country, an energy price increase and a target-setting about GHG emissions.

Second, we will solidify the foundation for sustainable growth by improving eco-friendly products.
We will take the lead to actively nurture motivity for the future growth through scientific innovation, develop low-power and highly efficient products by strengthening internal capabilities and launch eco-friendly products through an efficient use of resources.

Third, we will be faithful to our role as a representative company of green management.
We will continually carry out the activities as a leading global green management company by contributing to the establishment of advanced environmental policy, actively participating in climate change policy making·system improvement of government and performing a bridging role among companies like propagation of best practices.

Fourth, we will create new value associated with climate change issues.
We will expand green business through carbon marketing for the development of eco-friendly products and secure the capabilities to cope with in advance, for example, a participation in the pilot project of government for the GHG emissions trading scheme in domestic and overseas plants.

Our respectable stakeholders,

I cordially ask for your constant advice, encouragement and support for SEM, as well as a continued interest in us.

Thank you.

President & CEO **Chi-Joon Choi**

2012 Focus Issue

Awarded Silver Tower Order of Industrial Service Merit in competition for energy-saving

President Chi-Joon Choi was awarded Silver Tower Order of Industrial Service Merit, getting credit for KRW 42.4 billion of saving effect by promoting target management for energy saving based on the global energy management system in the 34th competition to promote competition for energy-saving.

Included in DJSI(Dow Jones Sustainability Index) World Index for four consecutive years

DJSI is the world's most prestigious Sustainability Index comprehensively evaluating and awarding the economic, environmental and social aspects of 2,500 companies worldwide. SEM has achieved the outcomes by being selected as World index companies in electrical parts and equipment sector for four consecutive years since 2009.

Included in Carbon Management Global Leaders Club for three consecutive years

As a result of evaluating the performance coping with climate change and the disclosure level of climate change information targeting 250 companies in terms of market capitalization among domestic listed companies, SEM has been acknowledged the fidelity of CDP(Carbon Disclosure Project) disclosure such as management coping with climate change, risks and opportunities, emission, etc. and included in A band of Performance Leadership Index such as climate change mitigation, adaptation, transparency, etc.

Included in the East Asia 30

East Asia 30 evaluates performance of social responsibility management, targeting 863 representative companies in Korea·China·Japan.
SEM was selected as one of 30 excellent corporations of social responsibility management based on the excellent performance in the area of environment, society and governance in 2012.

Awarded outstanding company prizes for climate change competitiveness

SEM was awarded certification by achieving top honor in 'Climate Change Competitiveness Index' among 496 companies of 'GHG and Energy Target Management' conducted by Ministry of Trade, Industry and Energy and The Korea Chamber of Commerce &Industry. It was highly appreciated that SEM conducted green marketing like climate change information disclosure, GHG pilot projects of government, carbon footprint certification, etc.

2012 Governance ESG Excellent Company Award Winner

SEM received a superior rating in environment, governance, and social responsibility sector as well as climate change response among 710 domestic listed companies and was awarded Excellent Corporation Award by Korea Corporate Governance Service.
Also we achieved a result of being included in Korea Corporate Governance Stock Price Index(KOGI), Socially Responsible Investment Index(KRX SRI), Environmentally Responsible Investment Index(KRX SRI-Eco) presented by Korea Exchange(KRX).

Corporate Overview

- Domestic plants (Suwon head office, Sejong, Busan)
- Production subsidiaries (7 factories in 3countries)
- Branch production factories (3 factories in 2 countries)
- Sales subsidiaries (7)
- Sales offices (15)
- Branch research subsidiary (1)
- Branch research center (1)

Corporate Overview

SEM is a global electronic components company continuously developing and producing key electronic components from chip components, substrate, camera modules, power and digital tuner to IT solution products. SEM that had laid the foundation of technological independence of components industry based on the production of Audio/Video components in Korea since its establishment in 1973 promoted the synergistic creation of the strategic development of technology and business, using the materials of core technology, wireless high frequency and power/precision mechanisms to actively respond to the environment of digital convergence following advancement, and complexation of IT technology. SEM intensively concentrates on nurturing core businesses that deal with top-tier products such as: PCBs, chip parts, camera modules, power parts, tuners, network modules and motors. We will take off as a leading IT company, creating the future with the following products: sensors and communication network solutions in the smart IP era, auto power trains(centered on the electric equipment industry of Electric Vehicle) camera solutions that expand IT technology, a solar energy inverter and super cap for the future energy field.

General Information

(as of 2012)

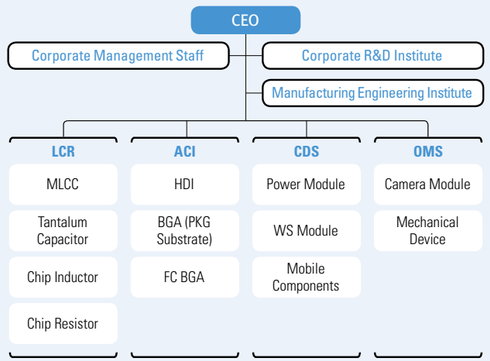
Corporate Name	Samsung Electro-Mechanics Co., Ltd.	Sales	KRW 7,912,830 million
President & CEO	Chi-Joon Choi	Business profits	KRW 580,476 million
Date of Establishment	August, 1973	No. of Employees	38,154 people
Total Amount of Capital	KRW 3,965,648 million	Location of Headquarters	Suwon-Si, Gyeonggi-Do, Republic of Korea

Introduction of Plants

SEM is spurring a global management with globalization and in-depth service centered by domestic and international 10 production factories and sales offices spreading the world. R&D and production of major products are being intensively made in Korea, and we have become the world's best electronic components company while solidifying our position as a global corporation by realizing a speed management where the flow of information and logistics become one as well as specializing each base through building an organic cooperation system between headquarters and overseas offices.

Structure of Organization

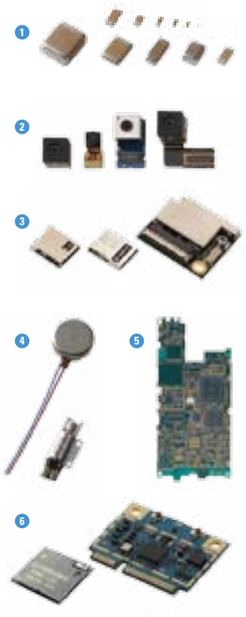
SEM consists of four business divisions of LCR, ACI, CDS, OMS and is being operated under a cooperative system of Corporate R&D Institute, Manufacturing Engineering Institute and Corporate Management Staff that are responsible for planning, HR, finance, sales, purchasing and other support functions.



* LCR Linkage of Magnetic Flux Coil, Capacitor, Resistor
* ACI Advanced Circuit Interconnection
* CDS Circuit Drive Solution
* OMS Opto & Mechatronics Solution

Major Awards	Host Institution
2012	
Included in the East Asia 30	Hankyoreh Economic Research Institute
Awarded Silver Tower Order of Industrial Service Merit in energy-saving promotion contest	Ministry of Trade, Industry and Energy
Included in the Carbon Management Leaders Club for three consecutive years and selected as the leader in the IT sector	CDP KOREA
Included in Dow Jones Sustainability World Index for four consecutive years	SAM, KPC
Prime Minister's Commendation for resource circulation leading company	Ministry of Environment
No. 1 in the climate change competitiveness	Ministry of Trade, Industry and Energy, The Korea Chamber of Commerce & Industry
Selected as governance(ESG) top company	Korea Corporate Governance Service
Included in FTSE4Good for two consecutive years	FTSE
2011	
Best Company Prize for Green Transportation	Metropolitan Air Quality Management Office
Included in the Carbon Management Leaders Club for two consecutive years and selected as the leader in the IT sector	CDP KOREA
Included in the East Asia Environment 30	Hankyoreh Economic Research Institute
Selected as total Grade A in sustainability assessment	Korea Corporate Governance Service
Included in Dow Jones Sustainability World Index for three consecutive years	SAM, KPC
Grand Prize at the 1st Green Business Awards	Ministry of Environment
Included in FTSE4Good	FTSE
2010	
Grand Prize at the 2010 Korea CSR Awards	Hankyoreh Economic Research Institute
Designated as the best Company in voluntary implementation for energy saving	Korea Energy Management Corporation
Included in the Carbon Management Leaders Club and selected as the leader in the IT sector	CDP KOREA
President's Commendation in the Korea IT Innovation Awards	Ministry of Trade, Industry and Energy
Selected as Dow Jones Sustainability Index(DJSI) World Sector Leader	SAM, KPC
Grand Prize at LOHAS Management Awards	Korea Green Foundation
No. 1 in the climate change competitiveness index assessment in the Korean industrial sector	The Korea Chamber of Commerce & Industry

Product



Parts for Cellphone

1 MLCC(Multi-Layer Ceramic Capacitors)
The MLCC acts as a sort of dam that controls the flow of electric currents required by a certain product.

2 Camera Module
The camera module, so-called 'electronic eye', is a part that enables photography and video recording by converting the images entering the lens into digital signals by using a sensor.

3 NFC Module(Near Field Communication Module)
This is a module that enables encoded information exchanges within short distances of 10cm or less, as a non-contacting, close-field, wireless communications standard that applies RFID(Radio Frequency IDentification).

4 Precision Motor
A motor installed in smart phones, game machines, etc. This is a product that conveys received signals through vibration rather than sound.

5 HDI for Cellphone PCB
A PCB is made to convey electric signals between electronic parts. This is a product produced by applying fine circuits and Build-up technologies that enable adopted devices to be slimmer and more simplified.

6 Wi-Fi / Bluetooth Module
A cutting-edge module enabling wireless, two-way real-time communication through the connection of computers and home appliances located within short distances of one another.

Parts for Computer

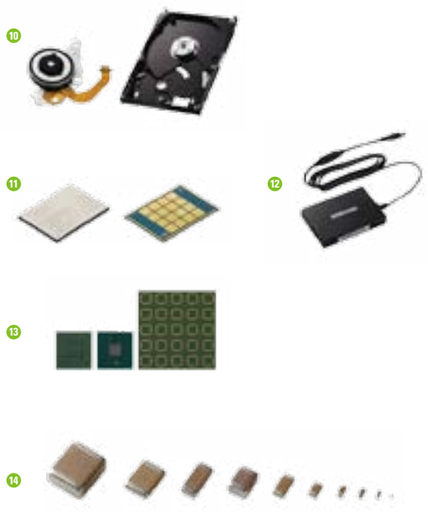
10 HDD/ODD Motor
The HDD(Hard Disk Drive) motor drives hard disks used for computers and others, and the ODD(Optical Disk Drive) motor rotates CD and DVD drives at a certain regulated speed.

11 Cellular Module
This module is forecast to be an essential product for the mobile Internet environment.

12 Adapter
This is an externally installed power supply device that supplies AC coming into the power supply cable to become highly efficient DC.

13 Package Substrate for Semiconductors
Compared to general substrates, a far finer circuit is formed.
- **FC-CSP(Flip Chip-Chip Scale Package)**
  As a package substrate used for mobile devices, the size of the FC-CSP is similar to the size of a chip.
- **FC-BGA(Flip Chip-Ball Grid Array)**
  This is a substrate for semiconductor packages that carries with it improved electric features through the connection of high performance semiconductor chips through the computer's CPU and GPU with substrates through flip chip bumps.

14 MLCC(Multi-Layer Ceramic Capacitors)
The MLCC acts as a sort of dam that controls the flow of electric currents required by a certain product.



Parts for Display

7 Power Module
This is a module-type power supply device that converts externally supplied electricity (Power supply for home use) into power suitable for the use of electronic devices. SEM concentrates its business capabilities on power supply devices for smart TV, which has recently and rapidly grown in popularity. Also, we expand business by securing the prior technology such as high-capacity SMPS, striving to develop competitive next-generation products and technology through the activation of industry-academia-research system.

8 Wi-Fi module
A cutting-edge module that enables two-way, realtime communication through the connection of computers, mobile handsets or home appliances located within short ranges.

9 Digital tuner
The digital tuner is installed in electronic devices for broadcasting (like smart TVs). This product is a core parts that enables TV viewers to select necessary signals from the signals sent by the TV broadcasting stations.

I . For the Value

Carbon Management System

- Carbon Management System
- Risk Management
- Stakeholder Communication

Carbon Management System

Carbon Management Strategy

SEM has been deploying various activities to realize 'COOL-SEMCO 1530' vision where we try to reduce 30% of GHG emission intensity by 2015. In doing so, we have established carbon management strategy pivoting on carbon management system, development of low-carbon product, internal and external communications and green business in order to realize a sustainable low-carbon management in 2008.

Completion of COOL-SEMCO **1530**

30% reduction of GHG emission intensity by 2015

Establishment of SEM's low-carbon management system

Green Management	Green Product	Green Communication	Green Business
• Establishment of a system coping with climate change regulation • Establishment of low-carbon certification system • Establishment of eco-friendly logistics system	• Development of eco-friendly products • Establishment of a system for eco-friendly packaging • Establishment of low-carbon technology development strategy	• Cooperation in government policy • Green ecosystem with business partners • Operation of eco-culture program	• Participation in carbon market • Promotion of carbon marketing

SEM's aiming to be a top-tier enterprise in the electronic components industry in 2020 is constantly working to be a leading company in Global Green Management, creating management performance through achievement of carbon management vision, satisfying and contributing the environmental policy by considering the elements of climate change on the entire business process in conjunction with the business strategy.

Operating Organization and System

Governance Coping with Climate Change

SEM has tried to enhance the value of stakeholders through a fair and transparent decision-making by establishing an advanced corporate governance. CEO has been serving as Chairman of the Board of Directors that is a top-level decision-making body that discusses and decides important matters for carbon management such as reduction of GHG emission caused by business and mid/long-term strategy to cope with climate change.
Green management team under CFO responsible for the practice coping with climate change analyzes risks and opportunities related to climate change, periodically monitors company-wide GHG emission and performs general functions such as mid/long-term strategic planning and implementation.

Operating and Evaluating of Organization to Coping with Climate Change

SEM periodically provides incentives by evaluating the performance to motivate employees for reduction of GHG emission and energy saving activities and encourage them to do a responsible role by sector. Also we award for environment, safety, and energy management systems and key performance by operating awarding institutions related to green management.

System of Performance

Category	Type of Incentives	Performance Index
Executives	Monetary Compensation	Goal for reduction of energy and GHG, CSR Evaluation
Environment & Sustainability Management Manager	Monetary Compensation	Communication performance related to climate change (CDP Awards, Korea Chamber of Commerce Industry evaluation, etc.)
Energy Manager	Monetary Compensation	Energy reduction performance
Manufacturing Group	Monetary Compensation, Citation	Energy reduction performance

In addition, we operate hierarchical internal training courses in order to raise awareness of employees about climate change and develope professionals like examinant of carbon footprint label as a leading response to the carbon regulation of products along with a campaign to reduce GHG and energy by utilizing in-company intranet.

Target	Educational contents
GHG department	· Internal GHG examinant, Carbon footprint label certification examinant, ISO50001 examinant
Employees	· Regulation trends and countermeasures related to climate change, Sharing examples of GHG, energy-saving · Improvement for energy-saving of manufacturing process and equipments
Business Partners	· Climate change issues, Measures for support, Education for establishment of GHG inventory, Energy reduction plan

Risk Management

Recognition of Risk in Climate Change

Today climate change is an important factor in determining sustainability of a company as risk factors and opportunities in business activities of the company. SEM responds to the carbon risk by analyzing possible risks, opportunities and impacts caused by climate change in advance and managing it by integrating it into the enterprise-wide risk management process.

Analysis of Risks and Opportunities

	Risk	Main Response	Opportunity
Regulatory aspect	• Emission trading scheme • GHG & Energy Target Management • Carbon tax • Regulations and standards on the display of the product	• Establishment of climate and energy management system • Implementation of GHG and energy reduction projects • Participation in government's GHG-related pilot projects	• Product competitiveness through the development of low-carbon, eco-friendly products according to product labeling/efficiency regulation • Regulation response and cost saving through energy-efficiency certification of equipment
Physical aspects	• Plant disaster (accident) according to climate change such as precipitation pattern change, tropical cyclones • Imbalance of energy demand and supply	• Plant risks management • Operation of emergency response system	• Increasing new demand for electronics due to climate change • Increasing demand for energy-efficient products due to lack of resources
Others	• Request and evaluation of carbon information from global customers / external stakeholders • Corporate reputation • Instability of social factors	• Eco-friendly products development • Responding to various stakeholders	• Corporate image enhancement with construction and implementation of carbon management system • Appropriate response to new demand with R&D reinforcement of eco-friendly products

Process to Cope with Crisis

The systematic management of rapidly changing market situations and various risk factors surrounding companies in the global management environment emerges as an important factor in deciding the survival of a company. Especially, the damages caused by climate change and natural disasters affect SEM's management and profit/loss in a very real way including company-wide risk management, supply chain management and adjustments of production base. SEM systematically copes with risks throughout its management by segmenting the risks that arise from internal and external environmental changes, through selecting the heads of each sector, in the supervision of the Head of Corporate Management Staff (CFO) under the CEO.

Process to Cope with Crisis

Consolidation of T/F to Cope with Risks

To cope with risks, according to internal and external management environmental change, SEM operates task force teams and undertake management by scenario, dealing with key management issues in each business sector. Also, we minimize follow-up risks by building management channels to systematically tackle various incidents and accidents that may considerably affect company management before they arise. After SEM analyzes the risk and opportunity factors in the sectors concerned, we are reflecting them in company policy to more systematically cope with recent eruptive issues such as climate change and energy.

Establishment of Business Continuity System

Business Continuity Management Certification Ceremony

Abnormal weather such as hurricane and change of precipitation pattern due to climate change is emerging as risk in corporate management. SEM keeps the lookout and responds for 24 hours, building an integrated monitoring system to remove various risk factors such as storm/typhoon and flood damages, not to mention fire and accidents at its plants. For this reason, SEM conducts a regular diagnosis with an external agency and internal experts. In addition, we issue step-by-step alert, perform the action in accordance with the crisis scenario and monitor water level of near river when there is a heavy rain. In November 2012, Suwon SEM acquired Business Continuity Management Certification from external certification authority about organization, procedure and training system coping with accidents in case of emergency in green management sector. We will continue to strengthen a process to cope with crisis in each plant in the future.

Stakeholder Communication

Stakeholder Engagement

SEM operates an open communication channel based on mutual trust with stakeholders. Collected opinions through a transparent corporate management and active exchanges are reflected in the management through internal decision-making. Also, as the number of stakeholders who are interested in climate change and demands information is increasing, we disclose information related to climate change in a annual report and participate in the Carbon Disclosure Project(CDP). You can check additional information through this carbon management report and SEM's Citizenship Report.

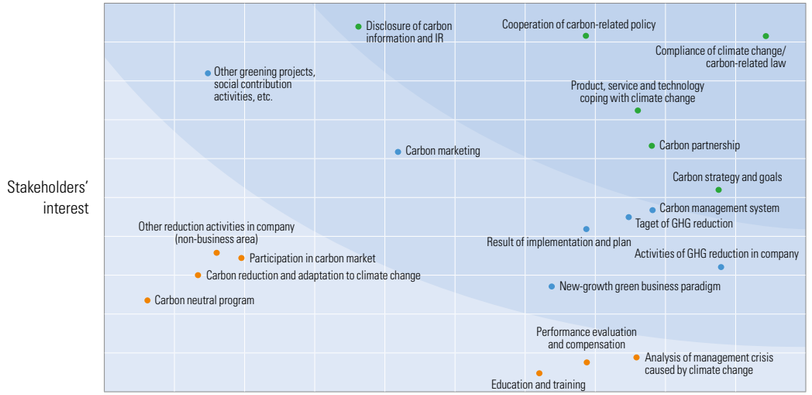
Stakeholder	Communication Channel	Response activities
Customers	• Customer satisfaction survey • Response to survey	• Development of low-carbon, eco-friendly and high efficiency product • Disclosure of carbon information of product
Shareholders / Investors	• General meeting of shareholders • Management briefing • Domestic and international road show • Disclosure of homepage / annual report	• Disclosure of carbon information • Disclosure of carbon management performance • Response to carbon management evaluation
Government / Organization	• Green Growth Committee, local government • Corporate Environmental Policy Council • Environment, Climate Committee for Green Growth	• Participation in GHG & energy target management scheme, Policy consultation • Active participation in government project
Business Partners	• Council meetings with partner firms • Presentation for Win-Win growth • Regular training how to cope with environmental regulation	• Support for GHG inventory establishment • Calculation of carbon footprint of product
Employees	• In-company broadcasting / Intranet • Climate change management system • Council to cope with climate change	• Operation of education programs • Settlement of green culture in company and Internal reward system
NGO/ Community	• Meeting with relevant agencies and community groups • Conference for sustainable development	• Consultation of sustainable development policy

Materiality Test

SEM builds process defining the important issues and selecting priorities in order to consider the impact of climate change on business performance and reflects key issues that are obtained through Materiality Test in the carbon management strategy.

Step 1	Deduction and understanding of issues	We understood internal issues through carbon management strategy, policies and systems of the company and external issues by analyzing global assessment agencies(CDP, DJSI), Guidelines(GRI) and domestic and international media.
Step 2	Analysis of the impact of issues	We analyzed the influence of issues such as impact on the industry and the stakeholders.
Step 3	Prioritization	We determined the priority of the issue depending on participation of stakeholders, collection of survey comment, listening to expert opinion, interest of stakeholders and impact on corporate business.(Internal and external surveys : 50 employees in key areas, 50 carbon management experts)
Step 4	Determination of reported issues and reflection on carbon management system	We will determine the issue disclosed in the report considering the seriousness of the issues, and important issues will be reflected in the carbon management strategy through additional review.

As a result of Materiality Test where business importance and stakeholders' interest had been synthetically considered, SEM drew six key issues: system for climate change regulation, development of eco-friendly products, carbon strategy and goals, policy cooperation related to climate change, carbon partnership with partners and disclosure of carbon information, and 14 additional issues: carbon marketing, reduction of GHG, etc.



Result of Materiality Test and Pages for Related Information

Category	Relative Materiality		Major Climate Change Issue	Pages for Related Information
Key Issue	very high	1	Compliance of climate change/carbon-related law	27, 30
		2	Cooperation of carbon-related policy	16, 30, 36, 39
		3	Product, service and technology coping with climate change	32, 33, 34, 35, 42
		4	Carbon partnership	37, 38, 39
		5	Disclosure of carbon information and IR	26, 27
		6	Carbon strategy and goals	12, 22
Additional Issue	high	7	Carbon management system	13, 26, 27, 30, 31
		8	Taget of GHG reduction	22
		9	Activities of GHG reduction in company	23, 24, 25
		10	Carbon marketing	42
		11	Result of implementation and plan(commitment to reduce GHG and its level)	22, 23, 24, 25, 30, 31
		12	Other greening projects, social contribution activities, etc.	38, 39, 40
		13	New-growth green business paradigm	2, 3, 12, 14, 15
		14	Analysis of management crisis caused by climate change	14, 15
	normal	15	Performance evaluation and compensation	13
		16	Education and training	13
		17	Participation in carbon market	41
		18	Other reduction activities in company(non-business area)	23
		19	Carbon reduction and adaptation to climate change	39, 40
		20	Carbon neutral program	40

SEM plans to conduct a low-carbon management activities through continuous communication that reflects the opinions and key interest issues of a variety of stakeholders, along with internal performance measurements with derived carbon management issues as the center.

Ⅱ. For the Nature

Carbon Management Performance

- Carbon Flow
- GHG Emission Management

Carbon Flow

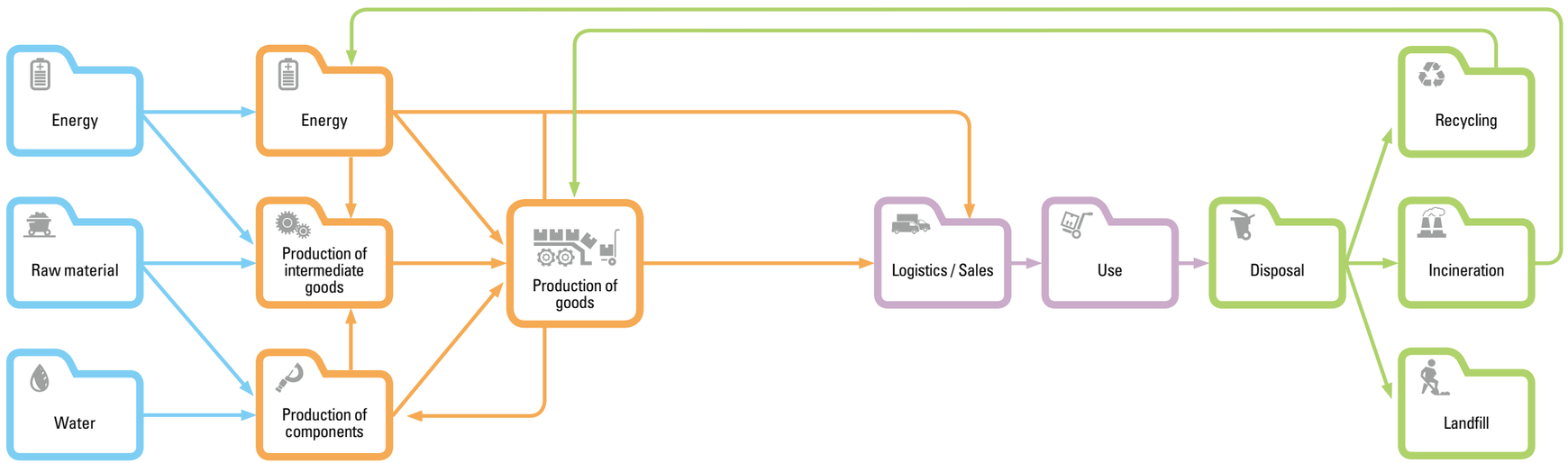
Input

Raw material	(Unit: ton)
Chemicals	113,384
Powders	5,898
Nonferrous metals	1,654
Precious metals	2
Paste	773
Resin	435
Others	289
Total	122,435

Energy	(Unit: GJ)
LNG	1,077,230
Diesel	58,181
Gasoline	19,221
LPG	4,323
Purchased steam	388,941
Total	1,547,896

Electricity	(Unit: MWh)
Usage	1,458,571

Water	(Unit: ton)
Surface water	1,372,426
Underground water	1,675,806
Industrial water/ Municipal water	13,317,508
Total water intake volume	16,365,740
Re-use water volume	2,415,833



Output

GHG emissions	(Unit: tCO_2e)
Scope 1	66,706
Scope 2	817,017
Total	883,723

Air pollutants emissions	(Unit: ton)
SOx	35
NOx	192
Dust	60
Total	287

Water pollutants discharge volume	(Unit: ton)
BOD	206
COD	403
SS	82
T-N	117
T-P	9
Total	817

Waste generation		(Unit: ton)
General	Incineration	1,391
	Landfill	3,575
	Recycling	35,792
	Subtotal	40,758
Hazardous	Incineration	2,176
	Landfill	1,065
	Recycling	34,834
	Subtotal	38,075
Total		78,833

Discharge concentration vs. legal standards		(Unit: %)
Air pollution	SOx	7
	NOx	12
	Dust	29
Waste water	BOD	30
	COD	43
	SS	8
	T-N	18
	T-P	12

SEM Carbon Flow

GHG in Kyoto Protocol includes six GHGs Carbon dioxide(CO_2), Methane(CH_4), Nitrous oxide(N_2O), Hydrofluorocarbon(HFCs), Perfluorocarbon(PFCs) and Sulphur hexafluoride(SF_6). In the course of business activities of SEM, CO_2 emission by the use of electricity accounts for most of GHG, and we emit GHG caused by other energy sources: LNG, diesel, gasoline and the use of process gas.
Meanwhile SEM doesn't use ozone-depleting substances defined by Montreal Protocol in all business activities.

SEM calculate other indirect GHG emission such as logistics, employee commuting, business trips and waste disposal as well as direct and indirect GHG caused in the course of manufacturing the product in plant. We are also going to strengthen the foundation to systematically promote a reduction activity of GHG emission in entire business process by consistently expanding the management area.

Investment / Operating expenditure / Benefit

Investment	(Unit: KRW million)
Waste water	390
Air pollution	2,714
Waste	288
Energy	42,165
Total	45,557

Operating expenditure	(Unit: KRW million)
Waste water	7,861
Air pollution	554
Waste	2,110
Energy	196,078
Total	206,603

Benefit	(Unit: KRW million)
Waste	70,345
Energy	14,841
Total	85,186

Scope 1 Direct emission considering inflow and outflow of carbon-containing substances

Scope 2 Indirect emission based on purchased electricity/steam, etc.

Scope 3 Indirect emission by the source that is not directly owned / controlled though it is required in business activities of company

GHG Emission Management

GHG Reduction Objective

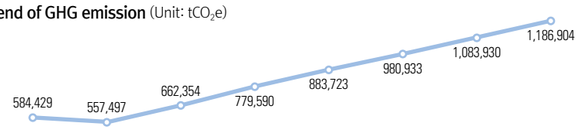
SEM has taken GHG and energy reduction activity based on a mid-term strategy of low-carbon management since 2008. We deploy various efforts across non-business areas as well as reducing direct and indirect GHG emission that occurs in the process of product manufacturing through establishment of annual reduction objective and prediction of mid/long-term GHG emission.
The prospect of GHG emission in 2015 is expected to be 1,186,904 tCO_2e and, compared to 2008, we aim to reduce a GHG emission intensity by 30%.

Prospect of GHG Emission and Reduction Target

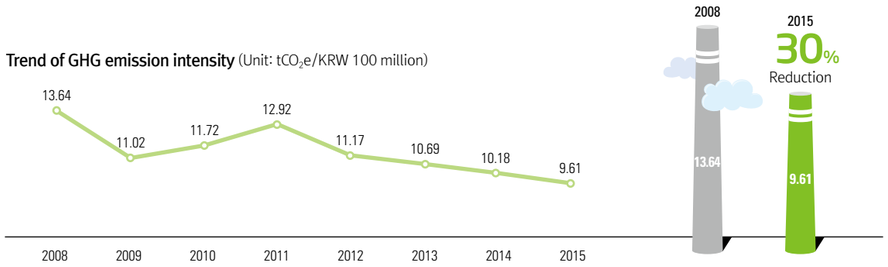
Category	2008	2009	2010	2011	2012	2013	2014	2015
GHG emission (tCO_2e)	584,429	557,497	662,354	779,590	883,723	980,933	1,083,930	1,186,904
GHG emission intensity (tCO_2e/KRW 100 million)	13.64	11.02	11.72	12.92	11.17	10.69	10.18	9.61

* The figures after 2013 are estimates.

Trend of GHG emission (Unit: tCO_2e)



Trend of GHG emission intensity (Unit: tCO_2e/KRW 100 million)

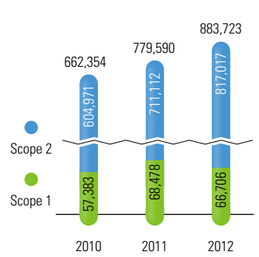


Performance of GHG Reduction

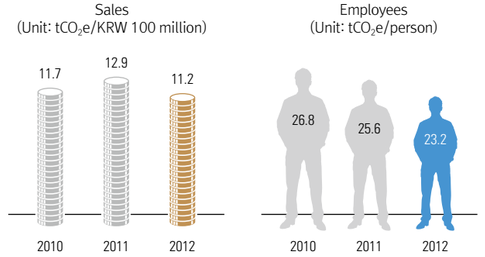
Trend of GHG Emission and Energy Use

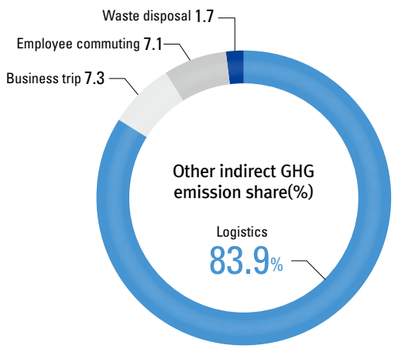
SEM continues to inspect and manage GHG emission depending on carbon management strategy. Emission tends to increase, averaging 15.5% a year over the past three years(Emission in 2012 is 883,723 tCO_2e) due to the impact of overseas business expansion in China and Thailand. However it is low compared to 18.3% sales growth in the same period, which is the result of GHG emission reduction across all divisions.
In addition, the range of GHG management in company tends to expand in entire process such as partners, logistics, business trip and employee commuting as well as manufacturing process, and other indirect GHG emission(Scope 3) in 2012 is 118,238 tCO_2e in total, among which there are logistics 83.9%, business trip 7.3%, employee commuting 7.1% and waste disposal 1.7% in order of emission. The emission of Scope 3 decreased 26,035 tCO_2e (about 18%) compared to that in 2011. Major reason of reduction is a reduction activity of the quantity of goods transported by air through logistics efficiency and packaging improvement. In addition, by reducing overseas business trip of employees and installing global video-conference system, we reduced 4,069 tCO_2e of GHG emission over the past three years.

GHG emission trend (Unit: tCO_2e)

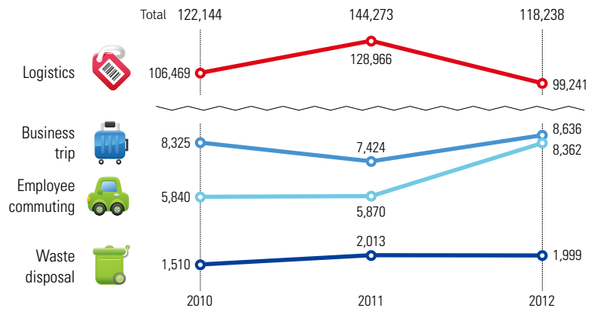


GHG emission intensity trend





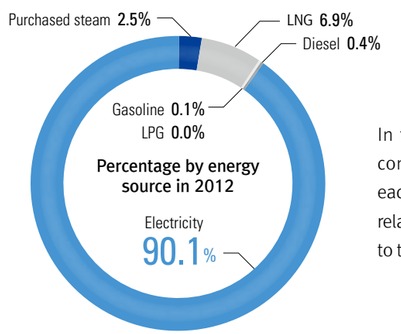
Other indirect GHG emission(Scope 3) (Unit: tCO_2e)



Energy Consumption

(Unit: GJ)

Category		2010	2011	2012	Energy cost in 2012 (KRW million)
Fuel	LNG	978,977	1,119,836	1,077,230	19,021
	Diesel	78,905	66,589	58,181	2,081
	Gasoline	16,709	18,025	19,221	896
	LPG	1,801	2,203	4,323	90
	Subtotal	1,076,392	1,206,653	1,158,955	22,088
Electricity		11,302,387	12,776,323	14,002,283	167,347
Purchased steam		324,204	378,397	388,941	7,847
Total		12,702,983	14,361,373	15,550,179	197,282

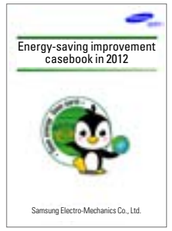


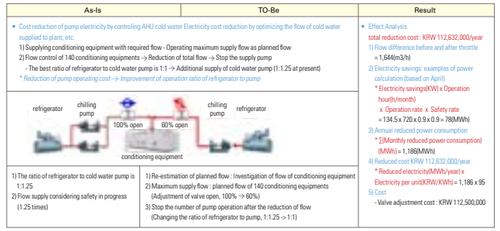
In the case of energy use, electricity accounts for 90.1% of consumption and it shows a tendency to increase slightly each year based on usage. However the energy dependence is relatively low and the proportion of energy cost is 2.5% compared to total sales.

Major Examples of GHG and Energy Reduction Promotion in 2012

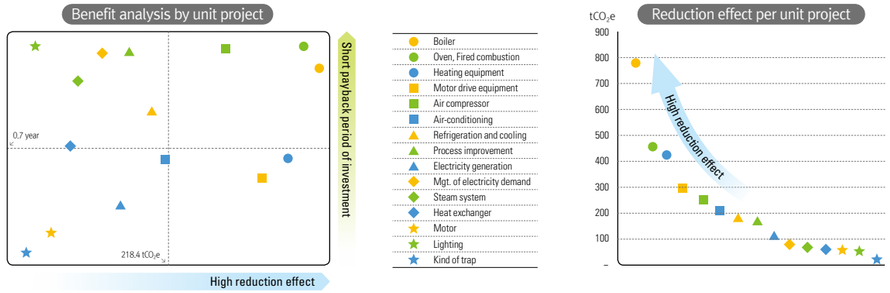
Relevant facility	Reduction activities	Reduction amount (tCO_2e/year)	Cost (KRW million)	Benefits (KRW million)
Air-conditioning	Installation of evaporative humidifier system and 24 other activities	5,425	1,256	1,578
Heating equipment	Efficiency improvement through the replacement of obsolete equipment and 6 other activities	3,142	870	1,054
Motor drive equipment	Control of rev count through the inverter installation and 8 other activities	2,711	536	502
Refrigeration and cooling	Replacement of aging chillers, integration of cold water line and 8 other activities	1,606	126	345
Boiler	Boiler tubule wash and debris removal, firebox cleaning	781	40	292
Process improvement	Efficiency through analysis of process air usage and 3 other activities	697	0	122

D/B establishment of GHG and energy reduction · improvement projects





Analysis of energy-saving project reduction effect by type



Energy saving performance by year

Category	2010	2011	2012
No. of cases	175	224	353
Electricity(MWh)	46,241	79,555	94,109
LNG(Nm^3)	6,462,189	6,431,426	8,259,816
Steam(ton)	-	-	3,936
Benefits(KRW million)	10,912	12,301	14,841

GHG emission reduction performance by year

(Unit : tCO_2e)

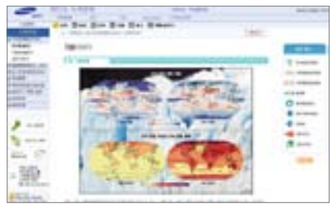
Category		2010	2011	2012
Energy	Electricity	21,560	37,092	43,878
	LNG	14,515	14,446	18,553
	Steam	-	-	1,180
	Subtotal	36,075	51,538	63,611
Environment	Video coference system	346	1,424	2,299
	Eco-product procurement	1,340	1,115	1,419
	Subtotal	1,686	2,539	3,718
Total		37,761	54,077	67,329

GHG Management System

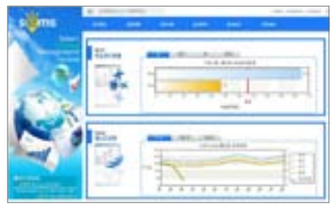
Since 2005, SEM has established a GHG inventory for business activities, and ensuring transparency of emission through a third-party certification process since 2008. In addition, we build and operate a system to cope with energy and climate change to systematically address a real-time energy use, GHG emission and reduction projects.

Establishment of GHG inventory

Step 1 Set-up of organizational boundary	Domestic : Suwon, Sejong, Busan and other establishments Overseas : Tianjin, Gaoxin, Binhai, Kunshan, Dongguan, Philippines, Thailand(Bangpakong), Thailand(Nakhon Ratchasima) and Hungary
Step 2 Check·classification of emission activity	Scope 1 : GHG produced by direct combustion and production within the boundaries of organization – Boiler, etc. Scope 2 : GHG produced by the use of purchased energy within the boundaries of organization- electricity, steam Scope 3 : GHG produced by business activities of company outside boundaries of organization – Logistics, business trips, etc.
Step 3 Set-up of monitoring type and its manner	It was set up to meet ISO 14064-1, GHG Protocol(A Corporate Accounting and Reporting Standard) and GHG & Energy Target Management Operating Guideline, 2006 IPCC Guidelines for National GHG Inventories
Step 4 Calculation the emission and establishment of monitoring system	We appointed the person in charge of GHG and responsible for calculation. Also we appointed a manager and the person in charge of monitoring point.
Step 5 Selection of estimation methodology of emission by emission activity	We distinguish the emission sources like stationary combustion, process emission, mobile combustion, fugitive emission, and the amount of emission is calculated by applying WRI/WBCSD GHG PROTOCOL and Tier 1 of 2006 IPCC Guidelines for National GHG Inventories.
Step 6 Calculation of emission	We calculate GHG emission depending on a calculating method by emission activity.
Step 7 Drawing up a statement	We draw up the statement of GHG emission and manage data internally.
Step 8 Third-party assurance	We are assured by a third-party about GHG emission.



Climate Change Mgt. system



Energy Mgt. system

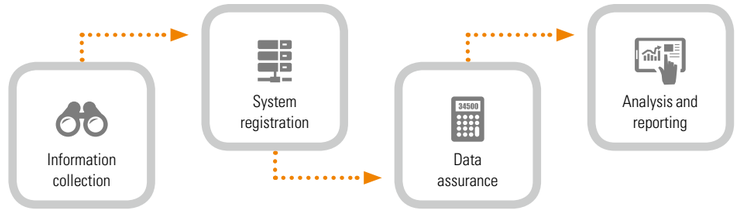
Process to Cope with GHG and Energy Target Management

SEM is promoting a stable implementation of GHG and energy target management system such as internal and external assurance of GHG management, negotiation of GHG target, various reports submission to government based on Climate Change Mgt. system to systematically respond to government's GHG and energy target management system.

Internal screening › Third-party assurance › Submission of GHG emission · implementation report › Checking implementation performance › Target Setting/ Site inspection › Target negotiation › Submission of implementation plan report

Process of GHG Emission Management

We disclose GHG emission information through registration in Climate Change Mgt. system, monitoring, third-party assurance regularly. It is based on activity data by the source of emission, selecting GHG manager in each domestic and overseas plant.



Calculation of mid/long-term GHG emission

SEM manages and predicts mid/long-term emission by taking into account the market forecast by product, the production planning in each plant and the present condition of new extension associated with calculation of mid/long-term GHG emission. Especially, in the case of domestic plants, we calculate emission estimate, considering emission facilities in base year and increased production from newly extended facilities based on GHG and energy target management operating guideline.

Monitoring of Implementation Plan of GHG and Energy Target Management System

SEM regularly checks the present condition to cope with target management system through a systematic implementation plan of GHG and energy target management and a monitoring by GHG manager and continuously improves GHG management system by regular internal screening such as data quality management(QC/QA) and measuring instrument monitoring.

Ⅲ. For the Future

Carbon Management Activities

- Green Management
- Green Product
- Green Communication
- Green Business

Green Management

Establishment of a System to Cope with Climate Change Regulation

Response to Government's Low-Carbon and Green Growth System

We respond to governmen's GHG and energy target management system based on Climate Change Mgt. system that have been running since 2008 to cope with climate change and were recognized by early reduction projects of 24,027 tCO_2e(in 2011) and 22,521 tCO_2e(in 2012) of GHG. We have reduced energy consumption by 18% compared to the same period last year by analyzing power equipment in company according to electricity usage restriction of government to control winter energy supply in December 2011 and participating in government policies through electricity saving according to an emergency scenario.

Reporting convention of electricity-saving management

SEM held reporting convention of electricity-saving management and participated in the forum where the issue of saving management and the best practices are announced, which was promoted in August 2012 to overcome summer electricity supply crisis. Also we checked the actual ability to cope with crisis through a simulation for the peak control.

※ For more information, please refer to 'Carbon management system' section of this report.

Leading Action to GHG and Energy-Saving Policy in Overseas Plants

From the end of 2009, Chinese government has pursued a policy to encourage eco-friendly business through environmental regulations strengthened to reduce GHG and environmental pollution. As a result of promoting energy savings and environmental improvement based on environmental management in Tianjin, Gaoxin and Kunshan subsidiaries in China, we enhanced the image as a leading Green Management company by receiving a reward of about KRW 450 million from the Tianjin and Kunshan Municipal Government in recognition of the achievements of 6 projects in 2012.

Response to Regulation for Energy Efficiency of Product

As a social responsibility of company and an environmental/energy regulation are strengthened, SEM carries out a lot of research, development and investment to reduce energy use and GHG emissions of the product installations and facilities as well as replacing the parts produced in company and the purchased raw·subsidiary materials with the eco-friendly materials. Especially in recent years, the regulations for efficient energy consumption are emerged following the regulation of product safety and electromagnetic waves, for example, certification of energy efficiency is required from a certification authority specified by U.S. government when a company exports electronic products to North America like U.S. and Canada. Accordingly, SEM was certified safety of products and electromagnetic waves and energy-efficiency for Adapter products in 23 countries including UL, CSA, TÜV. As a result of these efforts, there was no violation against environmental energy regulations in domestic and foreign country in 2012. Furthermore, we will consolidate our position as a leading company in Global Green Management, coping with enhanced regulation in advance.

※ Please refer to 'Green Product' part of this report about the practices related to the development of low-carbon and eco-friendly products.

Establishment of low-carbon certification system

Establishment of Carbon Certification System of Product and Eco-friendly Product Purchase

The level of stakeholders' request for environmental information of products has risen such as: environmental friendliness of product, energy use expenditure, GHG emissions, etc., SEM has voluntarily acquired a 'carbon footprint label certification' that shows GHG emission which occurs during production and transportation, distribution, use and disposal of products. In 2010, we acquired the 'Carbon footprint label certification' for the first time in MLCC industry, in 2011, the entire 10-layer IVH product and in 2012, UT-CSP products. SEM was the first-ever company in the Korean PCB industry to acquire such a certification. Also we signed a voluntary agreement on green purchase, expanded the purchase of eco-friendly products for computers, office furniture and other supplies and have succeeded a cumulative reduction of 3,874 tCO_2e of GHG emissions over the past three years.

Certification of Energy Management System(ISO 50001)

At the end of 2011, SEM acquired an energy management system certification for three domestic plants through a systematic GHG emissions reduction program based on the analysis of the facility and process energy used in the plants. We cyclically monitor and report activity performance by organizing a practical, company-wide work council through highly efficient energy facility adoption, low energy-efficient facilities replacement, new renewable energy adoption and the efficiency optimization of process energy use as major GHG emissions reduction activities.

Certification of energy management system(ISO 50001)

Category	Suwon HQ	Sejong plant	Busan plant
Examining Authority	Korea Energy Management Corporation	UL MSS	UL MSS
Date of Certification	December 2011	December 2011	December 2011

Eco-friendly building certification

Eco-friendly Building Certification and the Introduction of Renewable Energy

We applied a variety of eco-friendly design such as LED lighting, solar light collection system and solar hot water system in Dream Plaza as well as the introduction of natural ventilation design, the use of eco-friendly materials and the composition of butterfly-biotope/hydroponic space. We introduced renewable energy such as solar power system, solar street light and solar hot water system, purchased and utilized high efficiency equipment like high efficiency motor/inverter/transformer by conducting an examination on energy technology in the process of buying equipment. Also we will install and operate LED lighting, exit signs and will gradually replace lighting with LED lighting by 2020.

Establishment of eco-friendly logistics system

Building a Green Transportation Culture(Green Transportation, Eco Driving)

SEM is promoting activities for the reduction of GHG emissions such as package unit standardization of logistics and improvement of loading manner, loading rate through combined shipping and transportation route. In addition, we encourage low pollution vehicles or bicycle, prohibit cars once every five days according to license plate numbers and institute internal eco-driving PR and education.

Green Product

SEM continuously produces eco-friendly products reducing the use of environmentally harmful substances and minimizes the impact on environment throughout the entire process of production.

Development of eco-friendly products

For Display Products

Power Driver for LED TV

[Development of a power supply device for 3D/Smart LED TVs]

Since June 2008, SEM has been producing PD(all-in-one power and driver), an environment-friendly power supply device for LED TVs consuming 40% less power than LCD TVs. Through circuit technology differentiation(reduction of the number of parts and efficiency improvement), and the reduction of power depth and size, we have been continuously developing and producing power supply products for TVs to reduce costs and bulk by more than 30%. Thus, we have secured cost competitiveness in the creation of the slim-sized TV in the LED TV industry.

Multi Combo Tuner

[World's first development of a module for HD complex broadcasts]

We have developed a module so that HD(High Definition) images can be received using just one broadcasting module as a ground wave, cable and satellite broadcast. It is a product that maximizes the energy diminishing, saving cost by reduction of the number of parts and minimizing standby power in SET while improving the efficiency of circuit design by receiving ground wave, cable and satellite broadcast that were received through each Module with one Module.

EPD(Electrophoretic Display)
Type 7-Segment & Graphic Tag

[Development of low-power ESL alternative to paper labels]

ESL(Electronic Shelf Label) is an innovative product that can replace paper labels in retail stores and automate store operations by utilizing the ZigBee wireless communication system. It has been recognized as eco-friendly products in the retail industry because it can eliminate the trouble to print and the paper use. It is also a low-power product that minimizes power consumption and occurrence frequency of radio wave by taking advantage of the wireless communication protocol in the way of Wake up.

For Communications

Ultra-small MLCC

[Development of an ultra-small MLCC]

Since various functions like cameras, Bluetooth, DMB and Internet are applied to smart phones which are recently leading the market, about 400 small MLCCs are used, it is two times more than a general cellphone. SEM has recently developed 2.2㎌ MLCC that can be used at 6.3V in the dimensions of 0603(width: 0.6mm, length: 0.3mm). This product maintains ultra-tiny dimensions and increases capacity by 2.2 times, and thus, has reduced bulk by more than 70%, compared with other products with the same capacity(dimensions of 1005).

Development of a power inductor

[Development of small but high efficiency thin-film power inductor]

The power inductor helps to maintain a specific voltage constantly, after changing the standard voltage which comes from the battery embedded in a cell phone into the voltage through which individual parts(LCD, camera module, etc.) can be activated. We have been developing and producing thin film power inductor in 2012 that improves the efficiency by lowering DC resistance by more than 50% though it is more compact than existing products, and it has been applied to smart phone makers at home and abroad.

Power for LED Bulb
Power for LED Tube
Power for LED Down Light

High-efficiency/high-power density server power for green IT

Development of the power semiconductor module for refrigerators

SRM for home use

For Green IT

[Power for LED lighting]

As the problem of global warming caused by carbon dioxide emerges as a global issue, LED lighting market which are eco-friendly and low power is expected to expand gradually due to lighting standards enactment in major countries. SEM has been keeping pace with this market trend and developing power products for high efficiency LED lighting which is a core part of LED illumination. Product family developed today can be divided into Indoor, Low Wattage products like L-Tube, flat panel light and Bulb, and Oudoor family products, High Wattage like street lamps, Wall pack light lamps and security light, which are being produced. Also development is continuously in progress for enlarging variety of product.

[Server Power]

The request for product development increases to cope with climate change and it is focused on global companies in the IT industry. SEM performs energy efficiency grade management. Since SEM developed a server power supply device(AC-DC converter) for multimedia data processing and data storage in 2008, the product has been acknowledged as a high-efficiency/ high-power precision product that has actualized the world's top performance through acquiring the 80Plus certification(the Gold grade) from the power supplier efficiency certification agency, ECOVA. Following the supply to the world's leading server companies in October 2010, and the acquisition of 80Plus Platinum certification in January 2011, we are now scheduled to acquire the 80Plus Titanium certification in the second half of 2013.

For Energy

[Development of Power Semiconductor Module]

The power semiconductor module is a core component for home appliances such as refrigerators, washing machines and air conditioners as well as for industrial use and electric devices(Welding/UPS, Solar photovoltaic power generation and electric cars) that applies high efficiency energy saving inverter. It is a module which has a promising future due to energy efficiency regulations and an intelligent power-converting device composed of IGBT/FRD, IC, manual parts, thermal radiation board, PKG, circuit technology, etc. It plays a key role for reduction of power consumption of home appliances and industrial products.
Starting with the development of power semiconductor module for refrigerator in November 2011, it is expected to extend product applying it like power semiconductor module for washing machine and air conditioning.

For Home Use

[SRM(Switched Reluctance Motor) for home use)]

When compared with a general-purpose motor used in existing cleaner, SRM enables low power consumption by adding a controller. While the cleaner runs with the same force regardless of the amount of dust in the motor without controller, the motor with controller can reduce energy consumption by inhaling and adjusting the rotational speed depending on the amount of dust. Its noise level is less than 10% of the existing cleaner as well as lifespan of the product increased more than twice than existing products. SRM features a structure that does not use rare earth resources, the price of which is surging recently.

Establishment of System to Cope with Eco-friendly Packaging

Improvement Activities for the Reduction of Packaging

SEM sets reduction targets through improvement activities to prevent overpacking and loss and load rate improvement to reduce packaging. By reducing the volume of packaging through benchmarking competitors and performing various tests and analysis, and by optimizing transport volume, SEM complies with eco-friendly policies to minimize industrial waste, on top of reducing the use of basic resources.

Performance of improvement in 2012 (Unit: KRW 100 million)

Business division	Major improved items	Benefits
CDS	– Change of packaging materials and its way · PE(1ea/ Package)→AL(84ea/Package): 30% of raw material cost, 35% of shipping charge ↓ – Material cost savings by changing the type of armature · Suppression of high-strength corrugated cardboard use, application of WRAP type : KRW 300 million/year ↓ – Realizion of cost savings by changing a quality of the material of corrugated cardboard · Changing of stencil paper mix through analysis of test(A176→ A160) : KRW 280 million/year ↓	10.3
OMS	– Diminution of the usage by changing ISM SMT Assy packaging material · Tray(3ea/Package) → Magazine(20ea/Package): KRW 370 million/year ↓ – Improvement of work efficiency by changing HDD Pulling plate packaging material · Tray(50 /Package) → Stick(160ea/Package): packaging expense per unit 72% ↓	4.7
LCR	– Application of lightweight pallet development for air transportation · Present: 13kg/pallet → 5.5kg/pallet (application of the pallet only for air transportation) · Use of regenerated resin(recycling of materials), reduction of raw material / shipping costs : KRW 400 million/year ↓ – Air transportation cost saving through PASTE packaging simplification · Changing of pallet packaging for air transportation → Packaging operation by BOX unit : KRW 500 million/year ↓	12.9
ACI	– Improvement of packaging FCB/HDI banding (reinforcement of elasticity, plastic wrap simplification) · Quality improvement against damage/alien substance and reduction of packaging cost : KRW 100 million/year ↓ – Promotion of BGA packaging recycling · Clean and recovery of BOARD, CASE, plastic containers : KRW 800 million/year ↓	9.3
	Saved amount in total	37.2

Establishment of Packaging Material Recycling System

SEM makes great efforts to build a packaging recycling system as part of resource recycling initiatives. This helps a great deal in improving the competitive edge of our partner firms, not to mention the savings in resources it creates by supporting the recycling systems between SEM and our customers and between our partner firms and SEM. We plan to expand and operate a packaging recycling system.

Recovered Products

Product	Details of recovery
BGA	– Recovery application : SEM ↔ Customer – Recovery of packaging : BOARD, CASE, Plastic containers – Recovery details : Recovery of packing materials delivered to customers

Packing material recycling system

Strategy of Low-carbon Technology Development

To increase the energy efficiency of products, the development of low-carbon products and the carbon management needs partners, focusing on advanced global buyers. Strategic low-carbon management is expected to have direct and indirect impact on future sales and responding to the needs of eco-friendly products is a mandatory requirement in the business.

SEM has responded to the various environment-related needs of buyers, which are 3,105 cases in 2012 only.

Recently, regulations of climate change in domestic and foreign country gradually became visible and accordingly, we are planning to focus on strategic carbon business like development of a new market. Especially, as the business develops with state-of-the-art electronics as the center, the requirement of ultra-small, ultra-thin and high-performance core components from global buyers is increasing so we are actively pursuing joint research with related agencies for new product development and commercialization of energy reduction technology such as development of high-capacity capacitor and solar power inverter based on material, wireless and Photonics.

Also, following the regulations on product safety and electromagnetic waves, energy consumption efficiency regulations are recently emerging as a closely followed issue. In the particular case that electronic products are exported to North America (the U.S. or Canada), the energy consumption efficiency certification from a certification body designated by the U.S. government needs to be received. SEM has acquired the certification of 'Recognized Lab for North America Energy Consumption Efficiency'. The SMTL(Supervised Manufacturers' Testing Laboratory Program) is the first ever lab qualification to be gained in the Korean manufacturing industry. The energy consumption efficiency of SEM was evaluated through the services of our own lab, devoid of any witness from an approval agency. The results can be acknowledged in the same way as if they had been evaluated through an authorized certification body. As SEM internally evaluates energy consumption efficiency independently, time and expenses are greatly reduced, and thus SEM can enhance product response capability and competitiveness.

Green Communication

Cooperation in Government Policy

SEM has been actively involved in policies and requirements of government and stakeholders on behalf of 205 membership companies in eight regions nationally as the company in the position of chairmanship of Korean Green Company Council from May 2001. We maintain communication between corporate and government and realize the roles and responsibilities through a system proposal, a participation in establishment of green management evaluation and a consultation for improvement of Green Business designation system including an introduction of environmental information disclosure system.
Also we actively support the industry-wide plan, the efficiency of regulations that inhibit green growth and the municipal environmental licensing system, participating in Green Growth Forum and Green Start Network for the practice of low-carbon and green growth vision in Gyeonggi-Do.

Consultation activities for government policy

Category	Major consultation contents
Administrative innovation	– Consultation of regulation improvement of Ministry of Environment for administrative innovation of environmental regulations
Climate change, Clean air conservation	– Voluntary agreement ceremony for reduction of air pollution and GHG(Nov. 2006) – Annual mid/long-term educational projects(emission estimation, validation, screening, etc.) – Contracting MOU for pilot project of GHG emissions trading scheme – Consultation of system improvement associated with the GHG emission trading scheme – Consultation for the spread of energy management system
Resource circulation	– Joining the waste system improvements for building a resource-recycling society
Green company	– Consultation of system improvement and nurture of green finance experts – Participation in improvement of green business designation system – Voluntary agreement to promote the purchase of eco-friendly products and committee activities – Consultation related to the disclosure of information of green management
Environmental Technology	– Consultation of technical research and development to cope with international environmental regulations
Earth Environment (International Cooperation)	– Activities as a member of IEC TC111 professional
Corporate Support (Intendance, local government)	– Consultation of system improvement of environmental policy council in company

Greenstart Movement

Signing Greenstart Movement MOU

We deployed a campaign for the settlement of green life culture by having signed Greenstart Movement MOU between Ministry of Environment and Green Business Council in April 2012. We are committed to the spread of low carbon green life culture, energy saving and reduction of GHG to SEM manufacturing sites, offices, business partners, etc. such as the Green Touch Program (to reduce PC monitor standby power), unplugging the electrical cord and training and nurture green leader.

Green Ecosystem with Partner Firms

Shaping the Supply Chain of the CSR Foundation

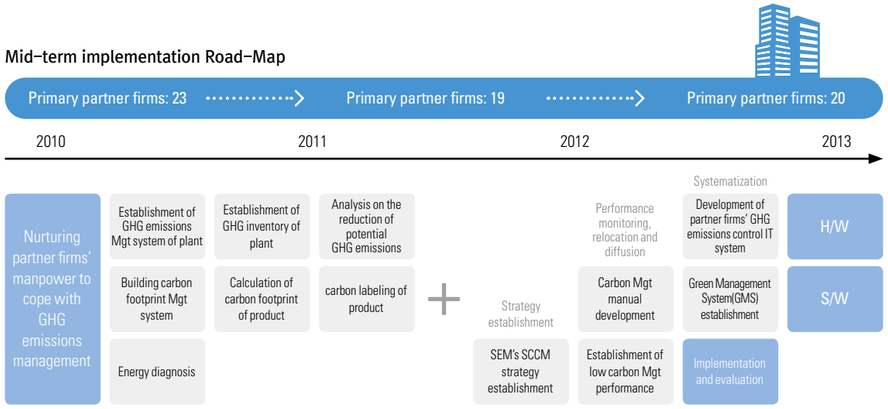
Since the late 1990's, SEM has been assisting in the environmental management systems of our partner firms. We support their establishment of a health and safety management system and their compliance with product-based environmental regulations/energy diagnosis advisories, under our community green management support policy via green partnerships. We also implement the support of a supply chain low carbon management system, through participating in national governmental projects, to cope with the consolidation of governmental GHG emission regulations in 2010.

Global investors and buyers demand social responsibility from us, as well as from our partner firms. To cope with such demands, we conduct activities to improve the sustainability of our partner firms through the operation of an S-Partner system that reflects corporate social responsibility thoroughly imbedded into its environmental quality management system, production and process management, ESH, labor, human rights, ethics, carbon management, etc. In addition, we newly adopted a 'CSR Pilot Program', organized by Korea's Small and Medium Business Administration, expand the target company, strengthen the information management about the GHG emissions and cope with the needs to expand Life Cycle Assessment management of carbon in company.

Mid-and long-term stratagies of 'Supply Chain Carbon Management'

Vision	Realize sustainability of SEM's supply chain through carbon Mgt dissemination and action		
Objective	Achieve green(2nd grade) or higher grade in the carbon Mgt of SEM's entire partner firms by 2017		
Strategies	Innovation in the aspect of Mgt	Consolidation of partner firms' carbon Mgt strategy - Educating board of directors - Distribution of carbon Mgt guidelines - Supporting PR for corporate carbon Mgt activities - Establishment of carbon Mgt strategies and objectives	Preparation of partner firms' carbon Mgt foundation - Support of carbon Mgt education for employees - Educating on how to comply with laws and regulations - Review of Mgt system and support of operation - Network consolidation based on IT system
	Innovation in the aspect of technology	Consolidation of partner firms' green technological prowess - Support of energy/process improvement diagnosis - Assistance of energy improvement investment - Implementation of projects/tasks	Strengthening partner firms' green information power - Educating GHG emissions management - Hosting best practice research meetings - Operation of mentoring system
	Offering incentives	Operating incentive system through carbon Mgt performance monitoring - Carbon Mgt Green grade : Add bonus points in case of S-Partner certification - Carbon Mgt Blue grade : Exemption partner firm evaluation once.	

Mid-term implementation Road-Map



※ SCCM : Supply Chain Carbon Management

Road-Map to manage GHG of partners

	2012	2013	2014	2015
Goal	50 partner firms (domestic)	70 partner firms (domestic)	100 partner firms (overseas)	100 partner firms (overseas)

Support Records

(Unit : No. of companies)

Category	2010	2011	2012	Total
Health & safety and energy diagnosis	-	9	40	49
Establishment of GHG inventory	23	20	5	48
Calculation of the carbon emissions of products	11	10	-	21
Support for the carbon footprint label certification	-	2	1	3
CSR consulting	-	2	5	7
Total	34	43	51	128

Establishment of Partner Firms' Low Carbon Management System

For two years, since June of 2010, SEM has been operating the state project, 'Establishment of Partner Firms' Low Carbon Management System' which targets 39 partner firms with the Ministry of Trade, Industry and Energy. Moreover, as the request of carbon information of products by global buyers is rising, we have been assisting in the carbon footprint label certification for three partner firms as well as our products.

Industrial Firms' 'Stop CO_2' Mentoring Project

SEM participated in a 'Stop CO_2 Mentoring Project' to build a partnership in the reduction of GHG emissions between large corporations and small and medium enterprises together with Gyeonggi-Do Provincial Government, Korea Environment Corporation, and Korea Electrical Safety Corporation in June 2010. It includes the GHG inventory establishment, energy efficiency diagnostics and professional education/training at four partner firms, including EO Technics.

Improvement of Green Management of Partner Firm

As global environmental regulations are consolidated like the execution of the EU' RoHS and REACH and China' RoHS, SEM regularly updates its partner firms biannually regarding environmentally regulated materials and suitable environmental management systems. By this, we are strengthening the competitiveness of our products, preventing hazardous substances to environment of product which is supplied from partner firm.

Operation of Eco-Culture Program

SEM takes the initiative in overcoming the crisis of climate change caused by global warming and contributes to global environmental preservation by operating green social contribution programs such as tree planting, nature clean-up and support of photovoltaic/solar heat equipment.

Suwon plant promotes a ecosystem restoration project of Woncheon stream with a local environmental group and Suwon City Hall and, as part of that, we carry out construction of ecological park(dissemination of flower seeds and waterfront area clean-up activities), analysis of river pollution and regular assessments of environmental impact of plant. In addition, we encourage waste-cell phone collection, a carbon point system with Suwon City Hall and the Greenstart Movement for our employees.

Sejong plant carries out 'one company-one river purification' in Miho stream and signed an agreement of 'Conservation of Best Ecosystem Area' with Ministry of Environment in Geum River basin in 2006 and promotes it with local government offices and environmental groups such as Green Boryeong 21, Taean county. In addition, we are promoting various activities such as ecosystem conservation of Sol Islands (collection of marine waste and clean-up), Sinduri duung wetland (wildflower planting, capture of exotic animals) and coastal dune in Sinduri (bank to prevent the loss of sand) as well as donation for king of cherry trees for Sejong Forest of Hope.

Busan plant selected the estuary of Nakdong River as the region for 'one company-one wetland purification' to ensure internal stability of wetland conservation supporters and deploys wetland conservation such as regular clean-up and collection of waste. Also we signed an agreement 'Wetland Preservation with Company' and promote activities with Ministry of Environment in Nakdong River basin in conjunction with the events of the Ramsar Convention held in October 2008 in Changwon-Si. They are wetland exploration of Nakdong River basin, wetland protection training in Eulsukdo eco-center, extermination of exotic animals and plants disturbing ecosystem and migratory bird feeding.

Sponsor of Eco-Solar Power Generation/Thermal Hot Water Facility

SEM donated the solar power generator to Byeotgari Village located in Chungnam, a sister village of SEM. The facility is 3kW class, and is operated in the Village Center, which is used for the village's digitalized classroom and guest accommodation. The energy expense saved through this is reinvested in the village welfare projects, and contributes to welfare enhancement.

Byeotgari village in Taeangun, Chungnam

Dongkwangwon social welfare facility

Hyesungwon social welfare facility

Sources of energy		Date	Target	Needs	Remark
LED		May 2007	Togomi village	streetlights in village park	2sets of LED streetlights
Solar energy	No.1	July 2011	Byeotgari village	Power savings	3kW
Solar heat	No.2	August 2012	Dongkwangwon	Reduction of excessive heatingl costs	18kW
	No.3	December 2012	Hyesungwon	Reduction of hot water costs	20kW

119 Activity of Task Force for Volunteer Work

We launched a task force team for volunteer work in May 2012 to deploy top priority recovery in the damaged region as various disasters caused by climate change occur to minimize environmental pollution. It is expected to quickly respond to disaster prevention in each region with professional personnels in each plant when there is a disaster in the future.

Ceremony of 119 volunteer work task force

Plant	Targeting area
Suwon	Seoul, Gyeonggi-Do, Gangwon-Do, Incheon
Sejong	Chungcheong-Do, Jeollabuk-Do
Busan	Gyeongsang-Do, Jeollanam-Do

Support of Water Saving Equipment

We specialized the voluntary service of installation of water-saving equipment to prevent lack of water caused by long drought and excessive use of water resources.

Category		Date	Target	Needs	Remark
Water saving equipment	No. 1	August 2012	Dongkwangwon	Water conservation, environmental education	Replacement of 77 kinds of water-saving equipment
	No.2	September 2012	Lira child welfare centers	Water conservation, environmental education	Replacement of 36 kinds of water-saving equipment
	No. 3	October 2012	House of Peace	Water conservation, environmental education	Replacement of 136 kinds of water-saving equipment
	No. 4	November 2012	Ebada school for the deaf	Water conservation, environmental education	Replacement of the water-saving equipment
	No. 5	December 2012	Hyesungwon	Water conservation, environmental education	Replacement of the water-saving equipment

Green Business

Participation in Carbon Market

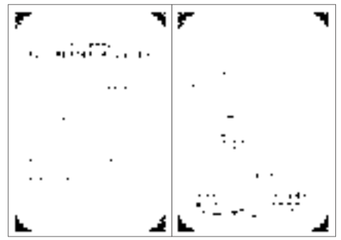
SEM has been recognized the performance by reducing 4,321 tCO_2e directly and indirectly, having participated in GHG reduction project since 2007 organized by Ministry of Trade, Industry and Energy to create the conditions of early reduction activities of GHG in industry. Also we have achieved a cost saving of cumulative KRW 6.4 billion for five years since 2008.

Reducing the steam consumption through installation of condensed water heat exchanger

Waste heat recovery of Myung-gi incinerator

Emission Trading

SEM involved in emission trading pilot project developed by government and local authorities. We participated in the emission trading pilot project in Busan and were awarded KRW 13.45 million due to the best performance of emission trading and the GHG emission reduction through cyber-trading. Also we have standardized establishment of GHG inventory and monitoring procedures based on guide of government, participating in emission trading pilot project of Ministry of Environment in 2010. We were selected as the best company participating in emission trading pilot project of Ministry of Trade, Industry and Energy in 2011. It was an opportunity to enhance the capacity to cope with emission trading system and increase the understanding of carbon market mechanisms, and we performed a leading role such as active provision of feedback to improve relevant systems of government based on the experience in the pilot project.



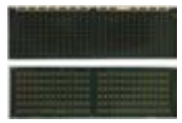
The agreement of GHG emission trading pilot project

Simulated trading system of GHG emission trading pilot project

Promotion of Carbon Marketing

SEM has acquired a 'Carbon footprint label certification' from the government to more easily provide information on eco-products to its customers, such as: the request for environmental information pertaining to a product's environmental friendliness, energy use expenditure and carbon emissions.
In 2010, we consolidated the environmental soundness of our supplied products by acquiring a certification for the entire 10-layer IVH product and UT-CSP product in 2012. SEM was the first-ever company in Korean PCB industry to acquire such a certification. This followed our triumph in receiving the carbon footprint label certification for the first time in MLCC industry. Additionally, we also secured the environmental soundness of our supplied products internally, by attaching environmental marks on 8 products through the adoption of the 'Environmental Mark System(Type II)'.

Acquisition of Carbon Footprint of product

	Product certified	
2010		• Product : MLCC(03A104K) • Manufacturing firm : SEM • Certificate No. : C-2010-002 • Expiration date : 2010. 2. 26 ~ 2013. 2. 25 • Certificate Authority : Korea Environmental Industry and Technology Institute
2011		• Product : HDI entire 10-layer IVH • Manufacturing firm : SEM • Certificate No. : C-2011-038 • Expiration date : 2011. 11. 29 ~ 2014. 11. 28 • Certificate Authority : Korea Environmental Industry and Technology Institute
2012		• Product : BGA 2-layer UT-CSP • Manufacturing firm : SEM • Certificate No. : C-2012-057 • Expiration date : 2012. 12. 28 ~ 2015. 12. 27 • Certificate Authority : Korea Environmental Industry and Technology Institute

per MLCC(03A104K)

per 1m² of HDI entire 10-layer IVH

per 1m² of BGA 2-layer UT-CSP

Participation of CDSB Standardization and Disclosure of Climate Change Information

Climate Disclosure Standards Board(CDSB) is a consortium made at the World Economic Forum in 2007 and consists of international environmental organizations, Accountants Association, the world's four major accounting firms that have influence worldwide to make a disclosure standard of climate information. We participated in the development of domestic Climate Change Reporting Framework(CCRF) supervised by National Committee for the Republic of Korea of Carbon Disclosure Project in 2012 as well as regularly and officially announcing outcomes related to climate change within an annual report.


Certificate of Membership

Samsung Electro-mechanics Co., Ltd.
CEO Choi, Chi-Jeon

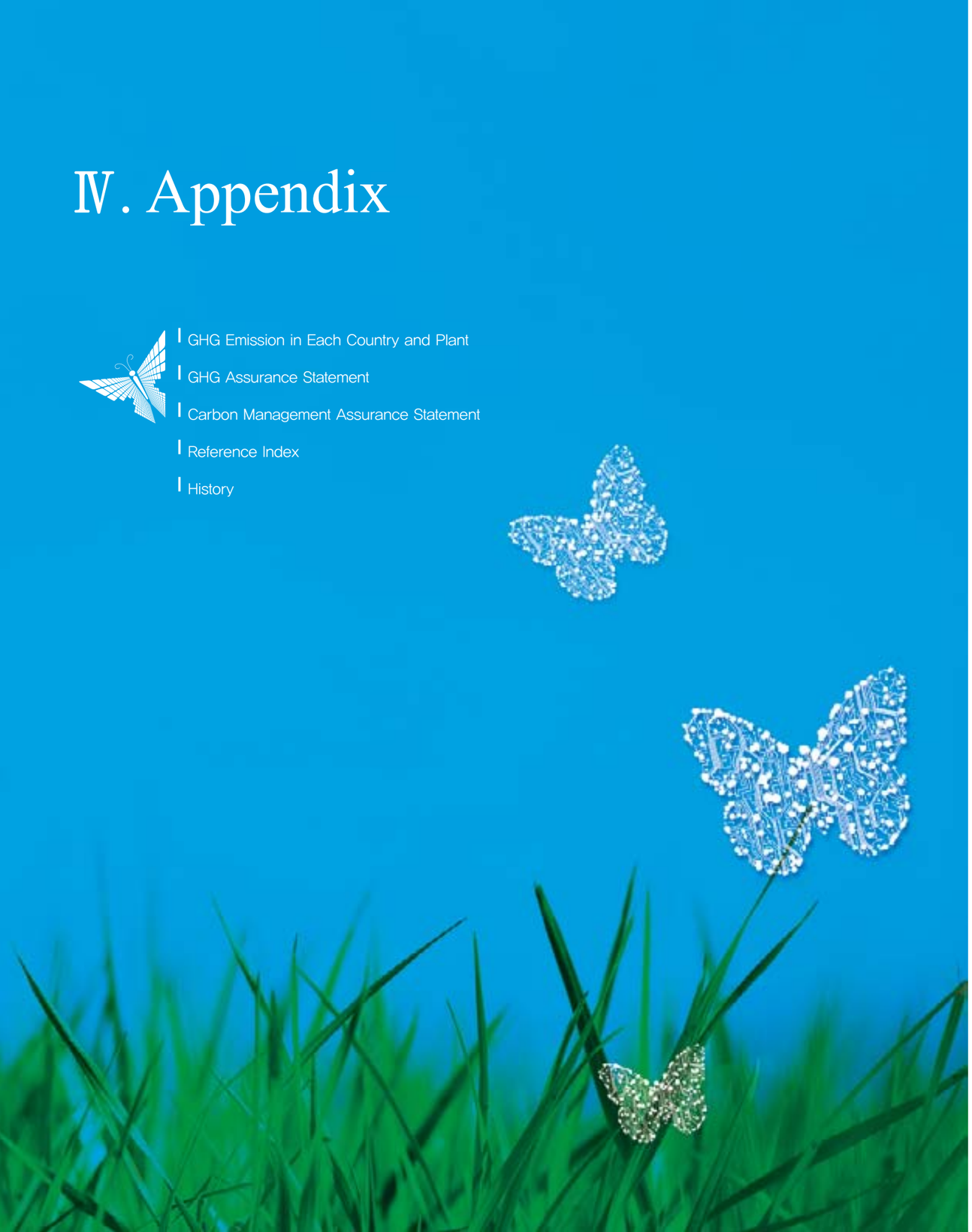
The bearer of this certificate is hereby recognized as a member of the Korean Working Group for the Climate Disclosure Standards Board (CDSB) aiming to set a global standard for climate change related-disclosures.

2012 July 3rd

Carbon Disclosure Project Korea
Chairman Jang, Jee In

Certificate of Membership for CDSB

Ⅳ. Appendix



GHG Emission in Each Country and Plant

Scope 1

GHG emission in each country (Unit: tCO_2e)

Category	2010	2011	2012
Korea	42,552	50,200	46,161
China	10,882	15,582	17,873
Philippines	3,485	2,223	2,123
Thailand	216	244	317
Hungary	248	229	232

GHG emission in each plant (Unit: tCO_2e)

Category		2010	2011	2012
Korea	Suwon	16,928	17,808	15,437
	Sejong	16,747	18,390	19,037
	Busan	8,579	13,934	11,629
	Others	298	68	58
China	Tianjin	6,278	6,211	5,849
	Gaoxin	3,848	4,145	3,685
	Binhai	-	4,427	7,523
	Dongguan	501	499	487
	Kunshan	255	300	329
Philippines	Philippines	3,485	2,223	2,123
Thailand	Bangpakong	216	244	214
	Nakhon Ratchasima	-	-	103
Hungary	Hungary	248	229	232

Scope 2

GHG emission in each country (Unit: tCO_2e)

Category	2010	2011	2012
Korea	329,977	360,748	364,603
China	178,765	247,862	327,033
Philippines	85,500	89,915	89,329
Thailand	10,230	11,991	35,395
Hungary	499	596	657

GHG emission in each plant (Unit: tCO_2e)

Category		2010	2011	2012
Korea	Suwon	53,070	59,500	62,742
	Sejong	67,784	76,013	83,807
	Busan	208,313	224,982	217,749
	Others	810	253	305
China	Tianjin	80,078	89,544	81,629
	Gaoxin	42,826	44,793	49,452
	Binhai	-	32,217	103,819
	Dongguan	26,179	30,267	38,029
	Kunshan	29,682	51,041	54,104
Philippines	Philippines	85,500	89,915	89,329
Thailand	Bangpakong	10,230	11,991	13,035
	Nakhon Ratchasima	-	-	22,360
Hungary	Hungary	499	596	657

bsi.

Verification Opinion

Samsung Electro-Mechanics Co., Ltd.

Scope:

- Korea : Suwon, Sejong, Busan and others
- Overseas : China(Tianjin, Gaoxin, Binhai, Kunshan, Dongguan), Philippines, Thailand(Bangpakong, Nakhon Ratchasima) and Hungary

The annual GHG emission for the period from 2007 to 2012.

The physical scope is limited within the boundary of Domestic and Overseas Area for Samsung Electro-Mechanics Co., Ltd.

GHG emissions for Scope 1(Direct-emissions), Scope 2(Indirect-energy related) and partially Scope 3(Indirect-emissions from logistic, commuting etc.) as defined in WRI/WBCDS GHG protocol Chapter 4 "Setting Operational Boundaries"

Data Verified:

GHG Emissions for the Scope 1 and Scope 2 for the period from 2007 to 2012 are as follows. (Unit : tCO_2e)

Country	Plant	2007	2008	2009	2010	2011	2012
Korea	Suwon	83,097	84,684	70,962	69,998	77,308	78,179
	Sejong	84,789	79,378	73,026	84,531	94,403	102,844
	Busan	214,940	197,335	189,999	216,892	238,916	229,378
	Others	739	759	808	1,108	321	363
China	Tianjin	64,492	65,589	73,999	86,356	95,755	87,478
	Gaoxin	32,907	39,623	42,385	46,674	48,938	53,137
	Binhai	-	-	-	-	36,644	111,342
	Kunshan	-	-	-	29,937	51,341	54,433
	Dongguan	30,094	32,793	24,122	26,680	30,766	38,516
Philippines	Philippines	64,993	72,447	71,756	88,985	92,138	91,452
Thailand	Bangpakong	10,230	11,220	9,867	10,446	12,235	13,249
	Nakhon Ratchasima	-	-	-	-	-	22,463
Hungary	Hungary	628	601	573	747	825	889
Total		586,909	584,429	557,497	662,354	779,590	883,723

GHG emissions of the Scope 3 as from logistic, waste treatment, commuting and business trip for 2011 and 2012 calendar year (Unit : tCO_2e)

	Logistic	Business Trip	Employee Commuting	Waste treatment	Total
2011	128,966	7,424	5,870	2,013	144,273
2012	99,241	8,636	8,362	1,999	118,238

GHG Criteria & Protocols used for Verification:

The verification was performed at the request of Samsung Electro-Mechanics Co., Ltd.. using the followings:

- GHG·Energy Target Management Operating Guideline (2012-211)
- The Kyoto Protocol to the United Nations Framework Convention on Climate Change- Issued 11 December 1997
- The GHG Protocol of the WRI/WBCDS – Revised March 2004
- IPCC Guideline for National Greenhouse Gas Inventories – Revised 2006
- ISO14064 Part 1 & 3 – Issued 2006
- BSI GHGEV Manual (KM007 R2) – Revised October 2012

The standard confidentiality principle of BSI Group Korea is applied to the all verification activities.

Verification Opinion:

As a result of the verification in accordance with the protocols and the best practice listed above, it is the opinion of BSI that:

- The verification was conducted to provide reasonable verification in accordance with GHG & Energy Target Management Scheme.
- No material misstatement in the GHG emission calculations was detected, related records were maintained appropriately.
- The data quality was considered corresponding to the international key principles for GHG emissions verification.

For and on behalf of BSI:

Managing Director Korea, JaeHoon Han

Issue: 11/03/2013

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BSI Group Korea Limited, 21F, Jongno Tower Bldg.#6, Jongno 2-ga, Jongno-gu, Seoul,110-789, Korea
BSI Group Korea Limited is a subsidiary of British Standards Institution.

Carbon Management Assurance Statement

I'd like to send my heartiest congratulations on SEM's 1st carbon management report. I reviewed this report to ensure that it complies with the principle of 'Guide for Carbon Management Report of Domestic Enterprise' and it is well-organized and faithful to the result and activity as well as the establishment of carbon management strategies and systems that are key issues of carbon management. Also it is well analyzed and organized in communication with key stakeholders. I could feel the passion and commitment of Samsung Electro-Mechanics for carbon management, while reading this newly published report.

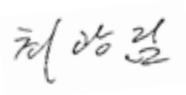
It is impressive that it presents an obvious goal, 30% reduction intensity in GHG emission by 2015, in carbon management strategy and it establishes specific strategies in each sector to realize a vision 'COOL-SEMCO 1530'. Especially it stands out that they establish a carbon management system with CEO as the center and operate high level system to consider a wide range of climate change risks in whole business. It is considered that it expresses a strong commitment of board of directors to actively cope with climate change and practice high level carbon management as a global company.

It is believed that the carbon management system is gradually and externally connected to the result of GHG emissions reduction as we can see it has been selected in Carbon Management Global Leaders Club for three consecutive years and as the best company in competitiveness of domestic climate change. Especially establishing a system to manage GHG occurred by activities of company in overseas plants and outside the boundaries of the organization will significantly contribute to improve the level of mid/long-term carbon management in company. Also it is noticeable that they continuously try to develop products and technologies to reduce carbon emissions and the use of environmentally harmful substances in whole production process.

It seems that the communication with stakeholders is systematically organized in the field of carbon management activities. It looks good that they deploy various cooperation activities with government and promote the mutual growth through a green partnership with partners. In particular, it is highly desirable that they practise an approach to grow together through integrated support which targets partners such as diagnosis of energy efficiency, establishment of GHG inventory and professional education. Moreover, it is seen positive that they operate various green contribution programs for society as well as ecosystem restoration project, sponsor of eco-friendly energy facility and support for vulnerable groups in climate change.

Furthermore, I look forward that SEM's carbon management becomes strong by performing a variety of activities for communication with stakeholders and connecting various perspectives of all walks of life to strategy of company. As they impress the world with invisible technology, I hope that it becomes a company that impresses a society and is loved by customers in managing carbon that is also invisible.

Business Institute for Sustainable Development, KCCI
Strategy Coordination Office, Manager/D. Eng. Kwang-Lim Choi



Reference Index (Guide for Carbon Management Report of Domestic Enterprise of BISD, GRI G3.1, CDP 2013)

Guide for Carbon Management Report of Domestic Enterprise of BISD			GRI G3.1	CDP 2013	Page
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		- Reduction activities by collaboration of contractors, technology makers, partner firms and community			
		4.1.2 Domestic and international co-operation activities		3.2	
	4.2 Carbon reduction project	4.2.1 Green credits, CDM projects, etc.		3.2	39, 40
	4.3 Carbon Neutral Program	4.3.1 Carbon Neutral Program		3.2	
	4.4 Green purchase system	4.4.1 Green purchase system			30, 31, 36
	4.5 Other greening projects, social contribution activities	4.5.1 Other cooperation with stakeholders, Forest offset, etc.		3.2	39, 40
5. Green Business and carbon market	5.1 Product and service to cope with climate change	5.1.1 Products to cope with climate change, occupying ratio of entire product, revenue ratio and trend		2.3, 3.2	32, 33, 34, 35,42
		5.1.2 Investment in products and services to copr with climate change			
	5.2 Carbon market	5.2.1 Participation in the carbon market		2.3	41
	5.3 Development of low-carbon technologies	5.3.1 Plan, strategies and objectives for the development of low-carbon technologies		3.2	35
		5.3.2 Performance and achievements, prospects of development of low-carbon technology		3.2	32, 33, 42
	5.4 Future plan	5.4.1 Future plans and strategies and objectives		2.3, 3.2	35
6. Cooperation with stakeholders	6.1 Communication with stakeholders	6.1.1 Range of stakeholders	4.14	2.3	16, 17
		6.1.2 Communication with stakeholders	4.16	2.3	
		6.1.3 Response and prevention of complaints of stakeholders	4.17		
		6.1.4 disclosure activities related to GHG, energy, carbon management and climate change		4.1	
	6.2 Policy cooperation	6.2.1 Cooperation in GHG, energy-related pilot project of government (participating business, participation ratio)		2.3, 3.2, 14	36
		6.2.2 Carbon labeling products, services ratio		2.3	32, 33, 34, 42
		6.2.3 Participation in the decision-making process		2.3	36
	6.3 Compliance with Laws	6.3.1 The number of violation of the law related to GHG and energy		3.2	30
	6.4 Other climate change adaptation projects	6.4.1 Reduction activities of impact of climate change like climate change adaptation projects		2.3	30, 38, 39, 40
7. Verification	7.1 GHG assurance statement		3.13	8.6, 8.7, 15	46, 47
	7.2 Carbon management assurance statement		3.13	8.6, 8.7, 15	48, 49
8. Appendix	Reference index	Index of related reference index such as GRI, CDP	3.12		50, 51
	Other annexed information	Corporate History			52

History

1973.	3	Establishment of Samsung Sanyo Parts Co., Ltd. (joint company with SANYO DENKI)
1979.	2	Flotation in Korea Stock Exchange
1983.	3	Stake withdrawal of SANYO DENKI Co., Ltd.
1987.	2	Changing the company name into Samsung Electro-Mechanics Co., Ltd.
1993.	6	Start of production in Thailand subsidiary
1994.	5	Start of production in Tianjin subsidiary in China
1996.	10	Completion of second plant in Dongguan subsidiary in China
2000.	2	Start of production in Philippines subsidiary
2000.	3	Start of production in Hungary subsidiary
2001.	5	Start of production in Gaoxin subsidiary in China
2007.	4	Philippines subsidiary won Best Company Award from Philippine Government
2008.	4	Awarded Prime Minister's Citation in 2008 International Electronic Circuits Exhibition
	4	Awarded MLCC 'IR52 Jang Young Shil Awards'
	5	Awarded Korea Institute for Parts Industry Awards in 'Future packaging new technologies Government Awards'
	6	Awarded Ministry of Trade, Industry and Energy Minister Awards in 'International LED EXPO & FPD KOREA 2008'
	10	2008 Awarded Grand Prize in Electrical and electronic manufacturing sector for Human Resource Management of the Republic of Korea
	11	Awarded Ministry of Trade, Industry and Energy Citation for resource circulation in Busan plant
2009.	4	Establishment of Samsung LED joint venture with Samsung Electronics
	4	Development of 1μF MLCC in the dimensions of 0603 first in the world
	6	Development of the world's first third-generation antenna
	9	Awarded President's Citation in the group sector of 2009 Electrical safety in Korea
	9	Establishment of Kunshan subsidiary in China
	10	Included in DJSI (Dow Jones Sustainability Index) World index
	12	Selected IMA as one of best ten technologies in Republic of Korea
		Awarded 2009 Proud Samsungman Awards (Celebrating of achievement 2nd rank in a market share in the field of MLCC)
2010.	1	Establishment of global ERP(Enterprise Resource Planning)
	3	Certified MLCC carbon footprint label certification
	4	Development of World's Smallest Ultra Slim tuner
	5	Awarded Prime Minister's Citation in the group sector of Beautiful Partner Awards
	6	Ranked 16th in 'Businessweek Tech 100'
	7	Authentic operation of Kunshan subsidiary in China
	8	Thailand Subsidiary won the Best Company Prize in the logistics sector
	10	Selected as a World Sector Leader in DJSI (Dow Jones Sustainability Index)
	11	Announced 8 promotion plans for growth with business partners
		Awarded President's Citation in IT Innovation
2011.	3	Philippines Subsidiary won Best Company Award
	4	Agreement ceremony for fair trade and Win-Win growth
	4	Awarded Grand Prize in 1st Green Company Award
	9	Establishment of Binhai plant of Tianjin subsidiary in China
		Included in DJSI (Dow Jones Sustainability Index) World index for 3 consecutive years
	10	Development of 2.2μF MLCC in the dimensions of 0603 best performance in the world
	11	Awarded Silver Tower Order of Industrial Service Merit in the Win-Win Growth Awards between large companies and small and medium businesses
2012.	3	Takeover of Alphana Technology(Japanese HDD motor company)
	6	Awarded Best Governance Company Awards
	9	Awarded Best Company for mutual growth
	10	Included in DJSI (Dow Jones Sustainability Index) World index for 4 consecutive years
		Selected as Best company for climate change response
	11	Awarded Silver Tower Order of Industrial Service Merit in Competition for Energy-Saving
		Certified Business Continuity Management(BS25999)