



SAMSUNG SDI



# Smart Solution for a Green World





## About Sustainability Report

### Eighth Sustainability Report

Since its Korea's first publication of Sustainability Report in 2003, Samsung SDI has published the report every year. This is the eighth annual Sustainability Report published by Samsung SDI. The previous report was released on May, 2010.

### The reporting Period is from January 1 to December 31, 2010.

This report contains updated information to reflect changes that occurred through April 30, 2011.

### All Global Production Subsidiaries, Sales Subsidiaries and Offices, Research Centers, and Joint Ventures.

This report covers information of the entire Samsung SDI's global operations

### Energy and Display Products

The contents extend to rechargeable batteries, ESS, PDP, CRT, VFD, automotive batteries and products under development at Samsung SDI research center.

### GRI G3

This report has been prepared according to the G3 Guidelines of the Global Reporting Initiative(GRI) and the Environmental Reporting Guidelines of the Ministry of Environment of Korea. Data was compiled based on the GRI G3 protocol and Samsung SDI's internal standards when not specified in the GRI G3 protocol.

### Assurance

To ensure credibility of report contents and underlying systems, this report was verified by an independent third party in accordance with AA1000AS(2008), the international assurance standard.

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Smart Solution  
for a Green World





## Samsung SDI

Samsung SDI is an eco-friendly and clean energy solution company.

Our worldwide network spans nine production plants, one R&D center, two sales subsidiaries and numerous branches and offices in 12 countries.

Samsung SDI is comprised of the Battery Business Division, PDP(Plasma Display Panel) Business Division and CRT(Cathode Ray Tube) Business Division. Our research center is currently carrying out research on core materials of rechargeable battery and next-generation battery technologies.

In 2010, we expanded our cell line in Cheonan, Korea and Tianjin, China, to strengthen our battery business and our newly established cell line in Ulsan, Korea.

In January, 2010, we established the Vietnam subsidiary and began production of mobile phone battery packs starting from July.

## Global Sites

**Headquarters** Giheung

**Production subsidiaries** Cheonan, Ulsan, Shenzhen, Tianjin, Shanghai, Malaysia, Mexico, Hungary, Vietnam

**Research center** Giheung

**Sales subsidiaries** Los Angeles, Hong Kong

\* Other branches and offices are excluded

Product sales volume (Unit : million)	Asset	Sales	Employees
· Battery : 780 · CRT : 16.6 · PDP : 6.4 · VFD : 17.3	KRW 7.9 trillion · Equity : KRW 6.2 trillion · Liabilities : KRW 1.7 trillion	KRW 5.1 trillion	12,662 people



## Contents

06	CEO Message	50	Economic Performance
08	Our Approach	51	Social Performance
10	Stakeholder Engagement	52	Environmental Performance
12	Preparing the Sustainability Report	53	Independent Assurance Statement
14	<b>01_</b> Preparation for the Future	55	GHG Verification Opinion
18	<b>02_</b> Present & Future Products	56	GRI Content Index
26	<b>03_</b> Eco-Value Creation	57	Samsung Value System
32	<b>04_</b> Compliance · Ethics Management	58	Samsung SDI's New Corporate Culture
34	<b>05_</b> Employees and Corporate Culture	59	Listening to You
40	<b>06_</b> Communication with Shareholders and Investors	61	Contact Information
41	<b>07_</b> Creating Customer Value		
42	<b>08_</b> Sustainable Partnership		
44	<b>09_</b> Contribution to Local Community		
47	<b>10_</b> Corporate Governance		
49	<b>11_</b> Risk Management		





**Samsung SDI prepares to take another leap forward.  
We ask for your constant support and encouragement  
as we move toward a sustainable future.**

Samsung SDI partners all around the world  
We appreciate your undivided attention and support.

The world is undergoing unprecedentedly rapid changes. Climate change caused by green house gases changes the fossil-fuel-based paradigm and thus the entire industry. Urbanization around the world, including an increase in the number of megacities with populations exceeding 10 million inhabitants, leads to increasing demand for energy, investment in infrastructure and smart electricity grids.

Samsung SDI, with its continual interest in global issues and forward-looking vision, considers such drastic changes not as a crisis but as an opportunity. Thus, in 2011, we declare a new vision for the next decade : "Smart Solution for a Green World." This vision is our ambitious dream of providing solutions for an eco-friendly world based on world class competitiveness in rechargeable battery technology and thus of contributing to the happiness and wellbeing of Earth's inhabitants.

This new vision will be developed along two axes : Smart Energy and Green Devices. Smart Energy refers to energy which reduces consumption of fossil fuels and which is available anytime, anywhere. Green Devices are various eco-friendly devices which include not only existing PDP but also electronic parts and materials.

In addition, we are unveiling a new corporate culture slogan, "So Good Company" to encapsulate this vision. This slogan

epitomizes our will to become a "So Good Company" which provides benefits to all stakeholders, including our shareholders, customers, supplier as well as society as a whole. This new corporate culture will be the foundation for Samsung SDI to become an eco-friendly and clean energy solution company which contributes to a better world and a better life for all.

Samsung SDI plans to strengthen its competitiveness in its main business, rechargeable battery technology, and it will concentrate all its capabilities to identify and nurture new business opportunities in order to secure a bright future and solidify a foundation for sustainable growth. Of course, since we recognize that fulfilling our social responsibility is the very source of sustainable growth, as we go forward we plan to grow together with our various stakeholders by way of communication and cooperation, while sharing values across all areas including economy, society and environment.

Samsung SDI's taking another leap forward to become a new power in the eco-friendly and clean energy area. We ask for your undivided support and interest as we proceed toward our sustainable future.

President & CEO  
Sang Jin Park

# Our Approach

Due to the development of alternative energy, the eventual replacement of limited fossil fuels and the global trend of restricting greenhouse gas emissions to guard against climate change in the 21st century, the market environment of the energy industry is changing. Against this backdrop, the International Organization for Standardization(ISO) published the ISO 26000, an international standard providing guidelines for SR(Social Responsibility) in November 2010. Thus

the demands for fulfilling SR have become more specified in businesses among companies. This is an irreversible trend which will persist well into the future. Therefore, if companies are to survive going forward, management must consider and address various sustainability issues. Sustainable growth must be pursued by fostering communication with various stakeholders both inside and outside the company in order to adapt to the changing management environment.

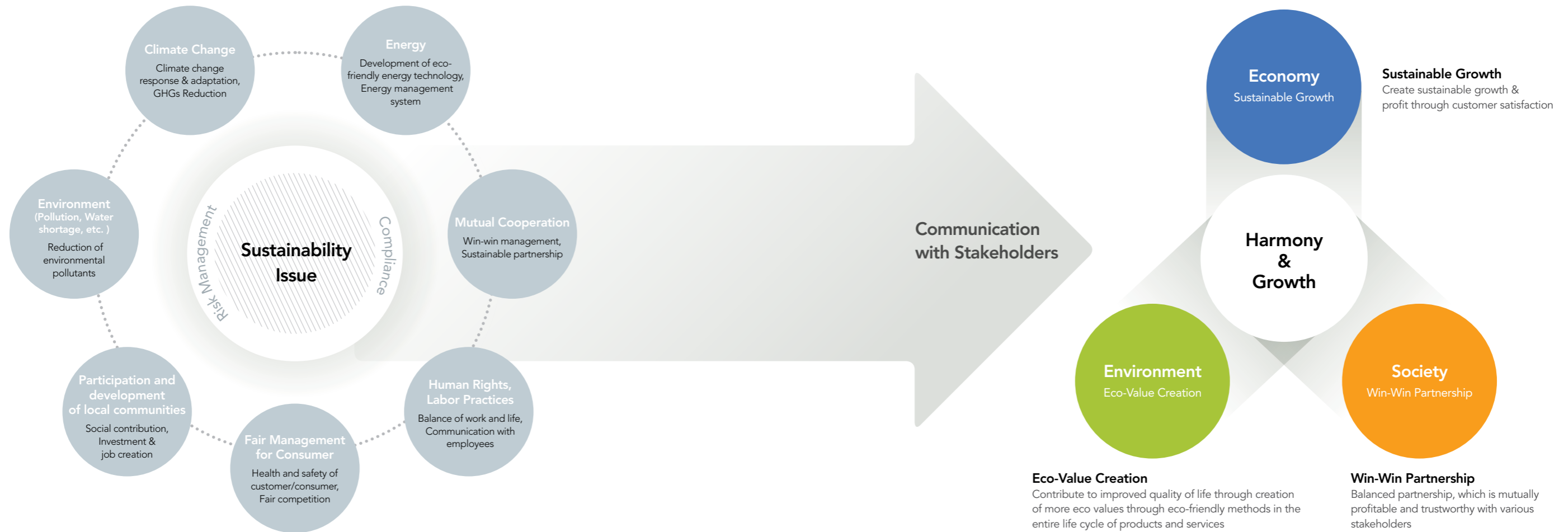
## Sustainability Management of Samsung SDI

Samsung SDI has been employing sustainability management since 2002. In 2003, we established a sustainability management vision and a mid-/long-term roadmap based on initial analysis of various areas, including the economy, the environment and society, the opinions of both inside and outside stakeholders, and the benchmarking of advanced companies overseas. Moreover, we are the first company in Korea to publish a sustainability report. By establishing a sustainability management office since 2004,

we have been making efforts to realize various social demands (sustainability issues) for Samsung SDI and we are determined to see that this is reflected in our products and management. Therefore, we market goods and services within communities which are genuinely desired by those communities. To this end, Samsung SDI will contribute to human prosperity by fostering leadership which respects not only economics, but also the needs of both the environment and society as a whole and through sustainable development.

## Sustainable Development Innovator

Contribute to human society through sustainable development with leadership in economy, environment and society



# Stakeholder Engagement

## So Good Company

Celebrating its 41<sup>st</sup> anniversary in 2011, Samsung SDI declared a new vision, "Smart Solution for a Green World," for another leap forward and for the preparation of a new decade. It also announced a new corporate culture "So Good Company" to realize this vision. "So Good Company" means a good company providing benefits to stakeholders including shareholders, customers and suppliers and contributing to society as a whole. It is the foundation for realizing the new vision and to becoming an eco-friendly and clean energy solution company which contributes to the earth and helps provide a better life for humankind.

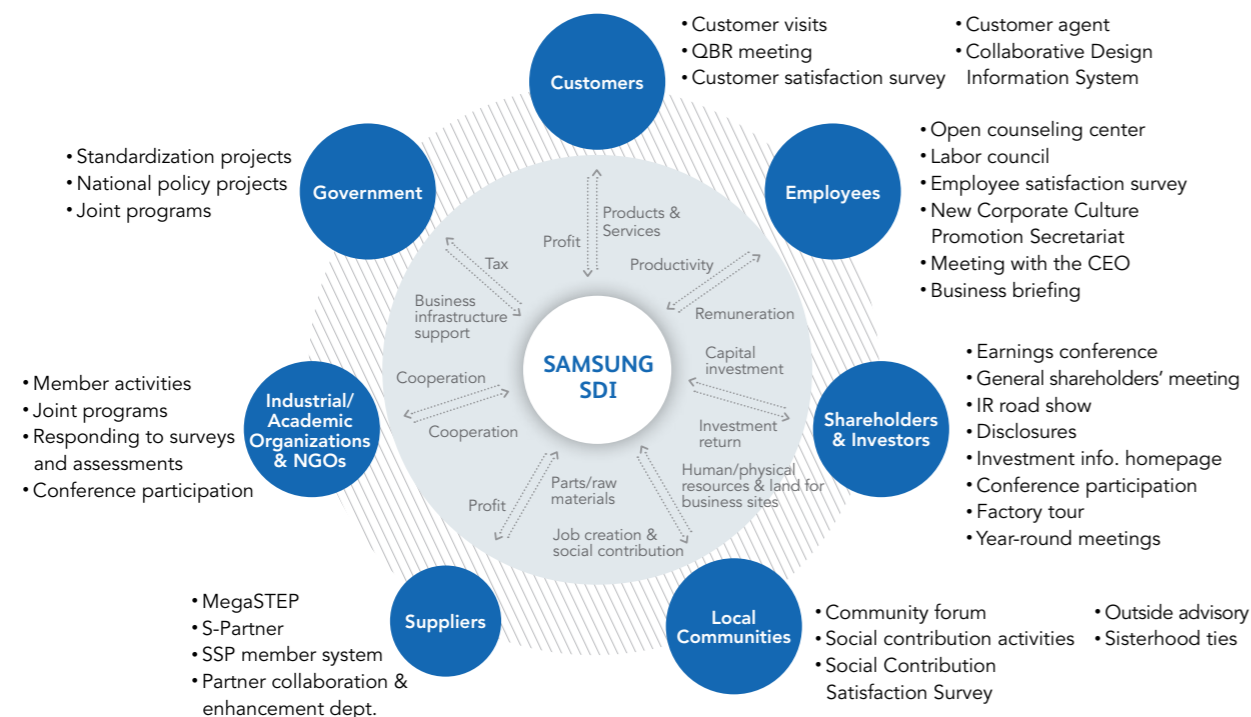
"Communication" is at the center of the core values for internalizing such a new corporate culture. Communication is the beginning of an effort to share various values across the economy, society and the environment and to grow mutually among Samsung SDI and its stakeholders. Our major stakeholders include customers, shareholders, investors, employees, suppliers, industrial organizations, expertise groups, civic groups and the local communities where Samsung SDI is located. We identified the major stakeholder groups based on our annual review of stakeholder engagement as well as internal discussion. Samsung SDI listens to the voices of its stakeholders through various channels and is always ready to cooperate with them. Thus it fulfills its responsibility as a conscientious member of society.

## Communication with Stakeholders

Samsung SDI makes every effort to communicate broadly with stakeholders through channels tailored to the needs of each stakeholder group as well as a VOC system on the company website. For sustainability issues, we receive stakeholder's views via sustainability menu on our homepage, phone (+82-31-8006-3366), e-mail (sustainability@samsung.com) and a feedback survey (Listening to You). We actively respond to inquiries and surveys regarding Samsung SDI's sustainability issues. Moreover, the 'Discussion Body on Sustainability Management Communication', comprised of officers in charge of major stakeholders, has been regularly operating to monitor work and sustainability issues raised by stakeholders. We plan to improve the processes for more systematic management of sustainability issues and to reflect the voices of stakeholders through reporting to the executives and inside sharing in 2011.



Discussion Body on Sustainability Management Communication



## Public Policy Response and Participation

Samsung SDI cooperates with industrial and academic organizations on technology projects and HR development to promote industrial advances while at the same time contributing to rational public policy-making. The objective of these pursuits is to minimize the environmental impact of products, manufacturing and services, and to promote consumer safety. We also cooperate in the successful execution of public policy through active participation in national projects in accordance with government policies.

Under Samsung's business principles, political activity is banned. Accordingly, we refrain from directly engaging in

politics that affect our operations. However, we express our views and make recommendations by participating in various organizations.

Samsung SDI is a member of the Federation of Korean Industries, Korea Business Council for Sustainable Development, Battery R&D Association of Korea, Nano Technology Research Association, Korea Industrial Technology Association, Korea Smart Grid Association, Korea Institute of Energy Technology Evaluation and Planning, Environmental Foundation and other associations and academic groups. The CEO Sang Jin Park of Samsung SDI was appointed as the Executive Director of the Battery R&D Association of Korea in March, 2011.

## Company to Execute the WPM Project Selected

Advanced countries such as Japan are concentrating their capabilities on developing core materials for the Li-ion battery, for it is these materials which determine the performance and added value of the end product and associated parts. The Korean government is also promoting activities to improve the health of its domestic material companies and to strengthen its national competitiveness. One of the projects is WPM(World Premium Materials : 10 core materials to lead the world market).



Samsung SDI was selected to execute the Li-ion battery task of the WPM project announced by the Ministry of Knowledge & Economy in August, 2010. The WPM project has the private-led 'Open Innovation' as a basic philosophy and the development of world class 10 core materials as the goal (materials with more than a billion dollar market and 30% of occupancy). In particular, Samsung SDI was introduced as a model for win-win business with the organization of the consortium with a high rate of participation by small and medium companies during the WPM task selection process. Samsung SDI will nurture world class materials companies through the project and be a good role model promoting mutual growth, which will enhance the global competitiveness of its suppliers.

## Participate in Waste Metal Resource Recycling Public Policy

The recent paradigm of the Li-ion battery industry shifts from small batteries for mobile and IT to medium and large batteries for electric cars and power storage. Therefore, advanced countries including Europe and U.S.A have passed laws to collect and recycle used batteries. The Korean government has also unveiled a 'Specific Execution Plan to Recycle Waste Metal Resources' in March 2010 to facilitate waste metal resource recycling in Korea. It plans to include Li-ion batteries whose usage increases for IT and vehicles in the subject of EPR(Extended Producer Responsibility).

Samsung SDI published the policy report titled Research on Recycling Ways of Li-ion Batteries in July, 2010 in cooperation with the Battery R&D Association of Korea to actively participate in the Li-ion battery recycling policy. The report covers confirmation of subject products to recycle Li-ion batteries, economic analysis, identification of current recycling status, preparation of infrastructure and discussion and cooperation among government and relevant industries. Samsung SDI will play a responsible and leading role in recycling used batteries as a rechargeable battery manufacturer.

More information is available on Samsung SDI corporate website's <Sustainability - Stakeholder Engagement> page. [http://www.samsungsdi.com/sustain/s2\\_1.jsp](http://www.samsungsdi.com/sustain/s2_1.jsp)

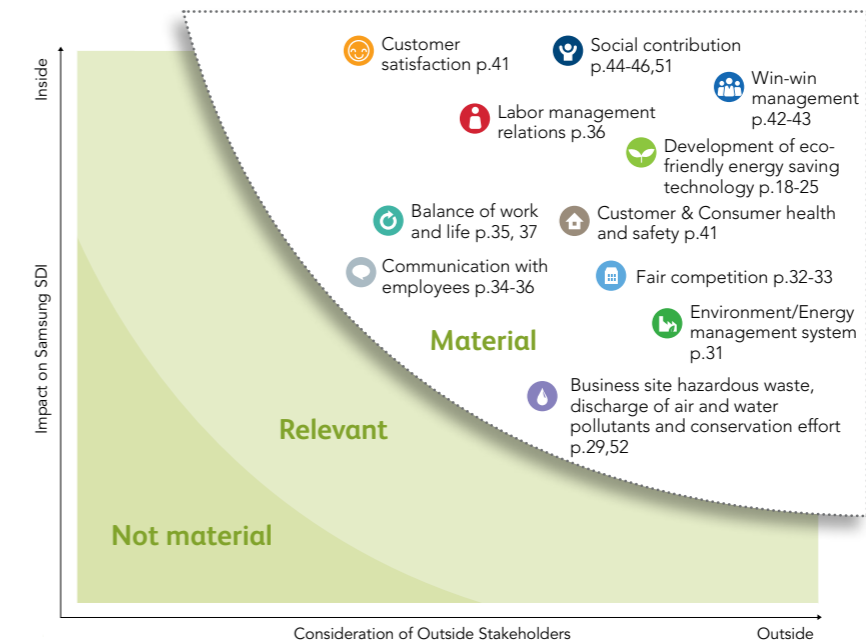
# Preparing the Sustainability Report

## Sustainability Report 2010

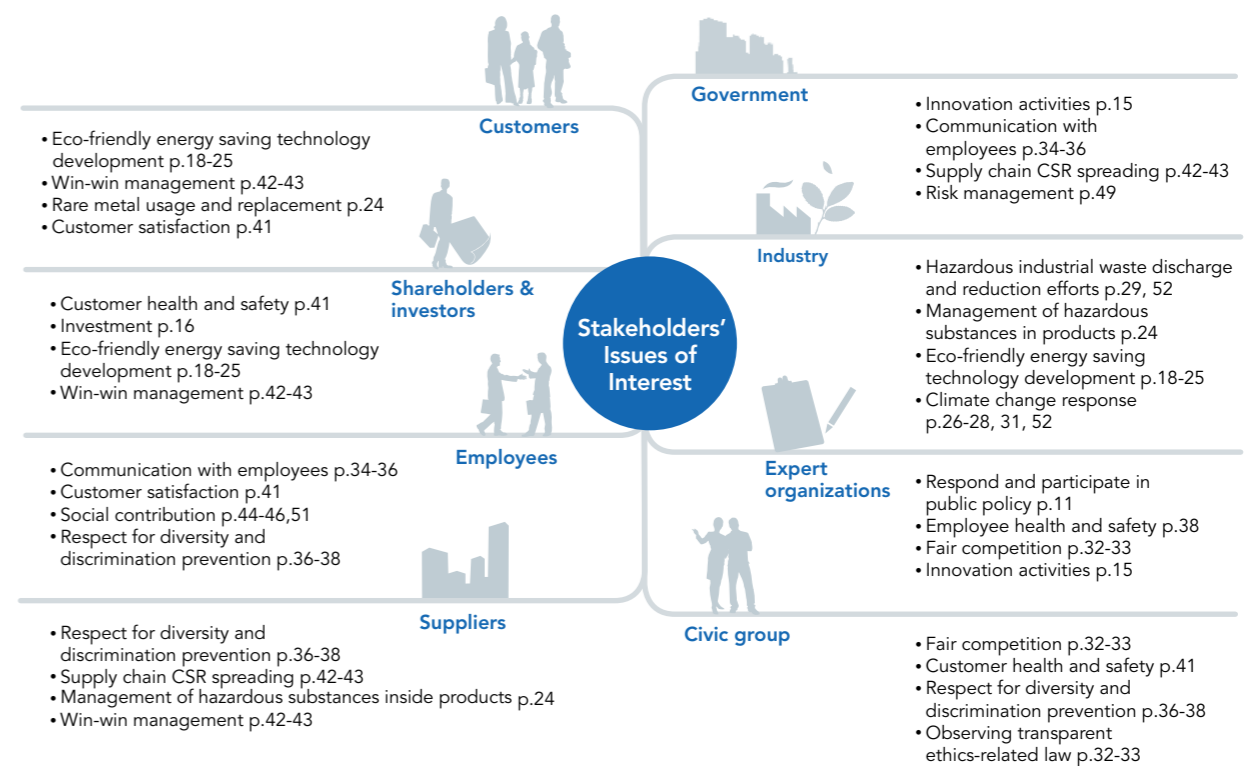
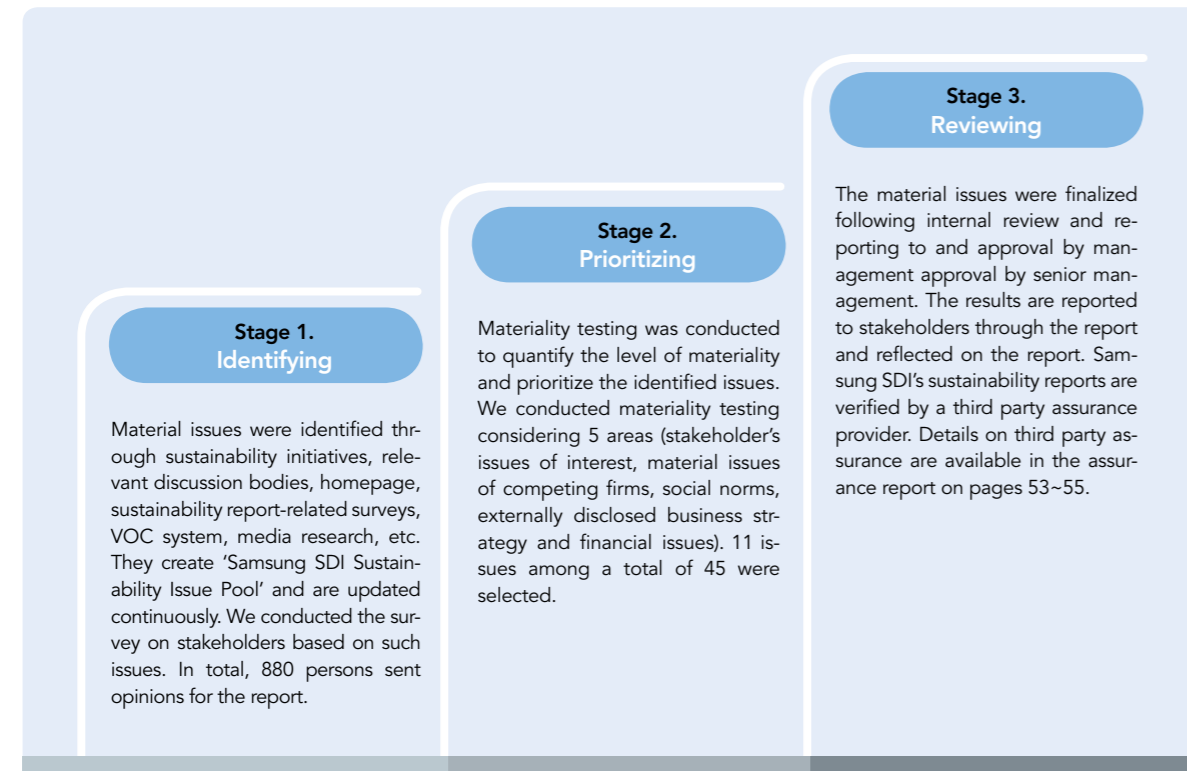
Samsung SDI's sustainability report is a major channel through which Samsung SDI delivers information on activities and performance related to sustainability and receives stakeholder feedback. The publication of this report is a crucial step in raising awareness of both inside and outside stakeholders about sustainability issues. In preparing this report, Samsung SDI carefully considers what outside stakeholders wish to know about its sustainability efforts and then makes every effort to present this information in a credible and easy to read document. As part of this effort, we have continuously improved the ma-

terial issue selecting process for more accurate and effective reporting. In 2010 we improved the existing sustainability issue pool and materiality test through the discussion body on sustainability management communication. This group, comprised of officers in charge of stakeholders, is tasked with reviewing their interests and concerns in light of the major sustainability initiative. Therefore, the revisions were intended to provide greater credibility and more accurate coverage of material issues. Issues are classified as being material, relevant or not material depending on their level of importance through materiality test.

## Samsung SDI's Materiality Matrix



## Samsung SDI's Material Issue Selecting Process



More information including the result of the survey "Listening to You" is available on Samsung SDI corporate website's <Sustainability - Performance & Reporting> page. [http://www.samsungsdi.com/sustain/s4\\_1.jsp](http://www.samsungsdi.com/sustain/s4_1.jsp)

# 01 Preparation for the Future

Recently, there has been an explosion of interest in the eco-friendly energy industry around the world. There is a vibrant discussion about alternative energy taking place not only in the vehicle and electronics industries, which are tied so closely with the energy sector, but in other industries as well. In September, 2008 Nikkei Business published an article titled "Those who defeat batteries would defeat the world," proposing the infinite potential of the vehicle and energy industries as a business model. Samsung SDI restructured itself over the last few years according to such a trend. In particular, we maximized management efficiency through bold restructuring of our business portfolio in 2008. In addition, we are in the process of becoming an eco-friendly and clean energy solution company based on the Li-ion battery, a new growth engine, and other eco-friendly technologies. Originally the Li-ion battery business, inaugurated in 2000,

was only a small part of a display firm, Samsung SDI. However, Samsung SDI's core axis shifted to a Li-ion battery-based energy business. The performance of this Li-ion battery business over the last decade may prove to be just the beginning of what's to come in the new century.

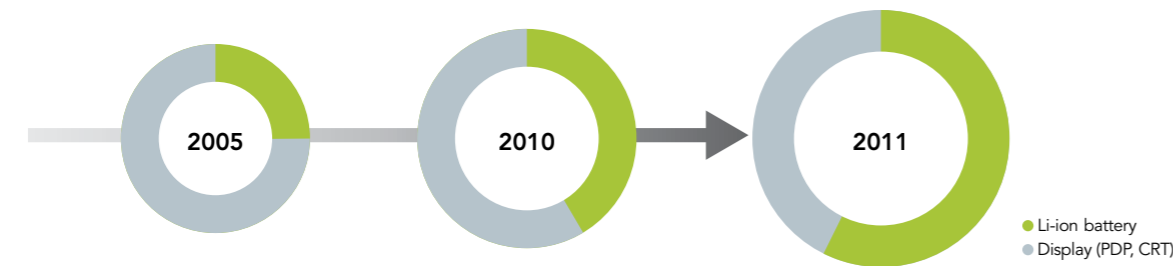
## From Display to Rechargeable Battery

Through the mid-2000s, displays occupied the majority of Samsung SDI's sales. However, due to skyrocketing demands for high volume Li-ion batteries for mobile IT devices, including mobile phones and lap tops, etc., the sales structure of Samsung SDI has rapidly shifted from displays to rechargeable battery.

It is expected that the rechargeable battery business will surpass the display business in 2011.

### Change in Sales Structure of Samsung SDI

Source : Samsung SDI Marketing Team



### 40-Year History of Challenges and Innovation

Samsung SDI celebrated its 40th anniversary on May 16, 2010. The last four decades have been a history of challenges and innovation. Starting as a tube manufacturer in Gacheon (what is now Ulsan) in 1970, the company successfully expanded into manufacturing cathode-ray tubes, LCD, PDP and OLED, thus helping to turn Korea into a display powerhouse. Samsung SDI, far from being complacent about its past success, is currently preparing to tackle the creative innovation challenges of the new decade based on its proven DNA.



Vision Declaration Ceremony (April 5th, 2011)

### New Vision of Samsung SDI

To become a leader of the future alternative energy industry, Samsung SDI is nurturing smart energy and green devices as engines for growth. We will become an eco-friendly and

clean energy solution company by expanding our business areas to include products presenting a new paradigm in the energy industry and across the electronic parts, materials and services sectors.

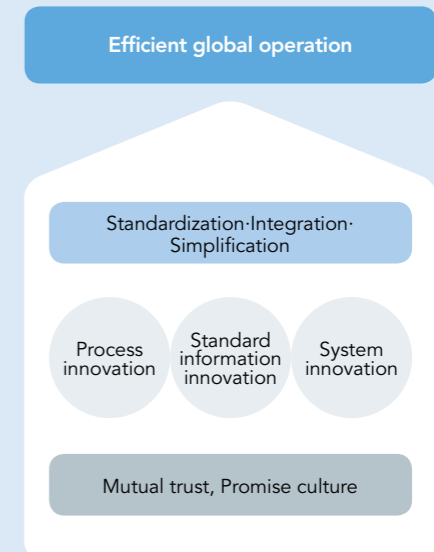


### Efficient Global Operation through System Management Innovation

With the goal of establishing an efficient, customer-oriented global operation, Samsung SDI has established (since 2009) a systematic management system based on three key infrastructures: SCM, MES and Global ERP. We secured systematic management by establishing an SCM/MES system in our domestic facilities and by spreading Global SCM and MES systems to overseas regions in 2010. In 2011, we will realize performance-oriented systematic management system by improving the level of global SCM operations and will establish global ERP from the perspective of mid and longer term business platform innovation.

We will also accelerate our efficient global operation by standardizing enterprise processes through PI and establishing ERP and executing an information sharing system which is based on a single system in all facilities including overseas subsidiaries. Moreover, all Samsung SDI employees recognize systematic management as a culture of mutual trust and promise and promote I-BEST activity to strengthen the company's soundness. I-BEST means that I practice tasks, from Basic, Easy and Small ones and from Today. Through the I-BEST system, we will thrive to speed up the management with an efficient system.

\* SCM(Supply Chain Management), MES(Manufacturing Execution System), ERP(Enterprise Resource Planning), PI(Process Innovation)





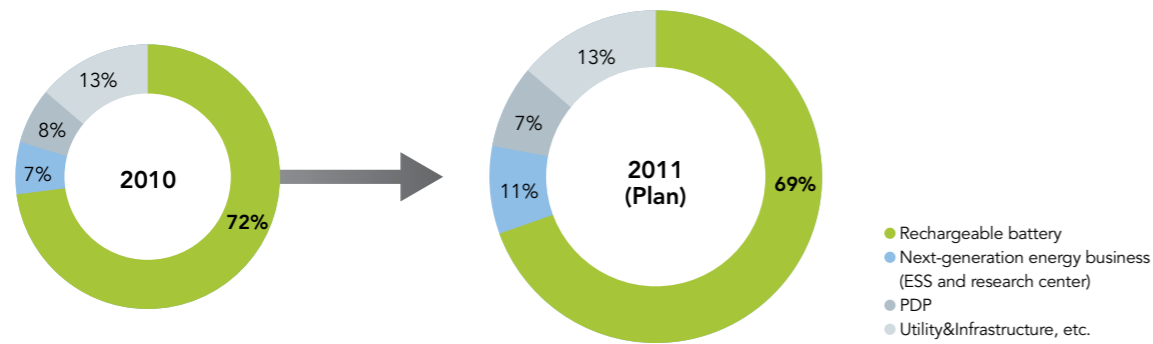
## Investment for Tomorrow

Samsung SDI is continuing to invest in Li-ion battery technology and next-generation energy businesses to take another leap forward to become an eco-friendly and clean energy solution company devoting a total of KRW 519.6 billion in facilities and R&D in 2010. We plan to increase investment in 2011 to strengthen our mid- and large-sized batteries business such as ESS(Energy Storage System)

and an advanced information system such as Global ERP. Moreover, we will strengthen our global competitiveness by expanding our cell material production lines and increase investment in overseas rechargeable battery base including our Vietnam facility in order to solidify a foundation for sustainable growth as an eco-friendly and clean energy solution company.

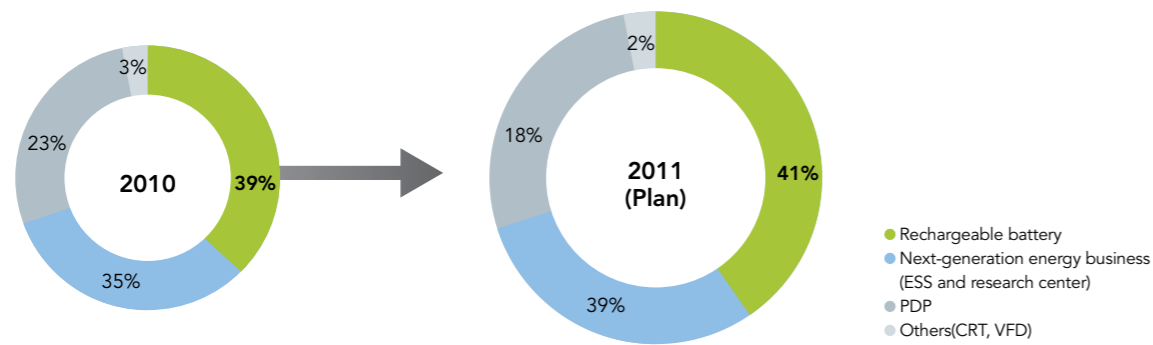
### Shift in Facility Investment

Source : Samsung SDI Management Support Team



### Shift in R&D Investment

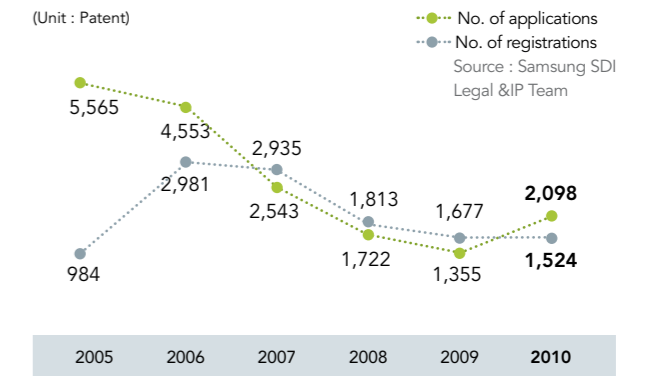
Source : Samsung SDI Management Support Team



## Parameter of Intellectual Asset – Patent

As of 2010, Samsung SDI had filed roughly 39,000 patent applications around the world and registered about 19,000 patents, securing R&D achievements as intellectual assets. Samsung SDI newly developed patent strategies appropriate for the green energy domain based on various experiences and know-how accumulated in the display area which have led to success in patent disputes with several overseas competitors. In the near future we look to create still more excellent patents as well as to cultivate our creative powers so as to surpass our competitors in the clean energy patent competitions which lie ahead. In 2011, we will continue to pursue breakthroughs in green energy technology by carefully verifying the results of our R&D in an effort to accurately identify practical applications. We will be focusing our efforts on identifying superior inventions with potentially significant market advantages. At the same time, we will seek to establish a highly competitive global patent portfolio while maintaining our commitment to global joint development through open innovation.

### Samsung SDI's Patent Applications & Registrations



### Global Leader in Rechargeable Battery Patents for Two Consecutive Years

In October 2010, Samsung SDI has ranked 1st in the world in the rechargeable battery category in the Green Energy Technology Index(GETI)<sup>1)</sup> survey for two consecutive years (2009-10). The GETI was jointly developed by ED Research, a patent consulting firm, and the Korean publication, Electronic Times. Samsung SDI outpaced its competitors based on the number and quality of US patents acquired relating to rechargeable batteries. S-grade patents with ratings of "A+", "A" and "A-" accounted for 37.6% of the total patents held. The evaluation became an opportunity to re-confirm Samsung SDI's superior technological capabilities in rechargeable batteries by making a huge difference from the ranking no. 2 company in the number of U.S. patents and in its GETI scores compared with the 2009 evaluation. Samsung SDI has also made notable strides in fuel cells and solar cells.

Year	Division	SDI	company A	company B	company C
2010	Rank	1st	2nd	3rd	4th
	GETI Score	30.3	18.2	16.3	14.4
	No. of US Patent	197	139	126	109
2009	Rank	1st	2nd	4th	3rd
	GETI Score	23.6	17.7	15.3	16.6
	No. of US Patent	147	131	122	122

1) GETI(Green Energy Technology Index) : The GETI was jointly developed by ED Research, a patent consulting firm, and the Korean publication, Electronic Times. It assesses the quantity and quality of patents registered in the US in five major energy areas(rechargeable battery, fuel cell, light-emitting diode(LED), solar energy, carbon capture and storage).

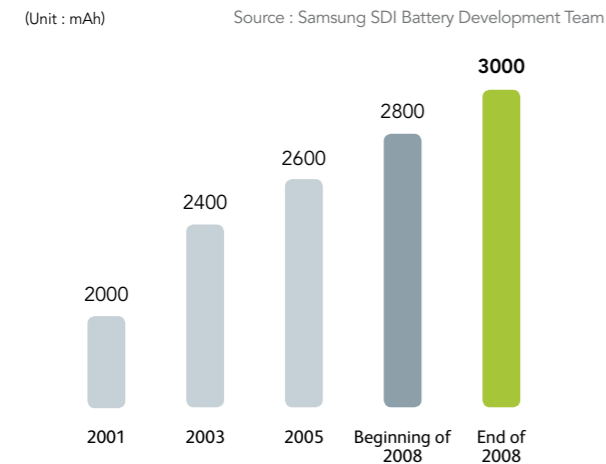
# 02 Present & Future Products

## Heart of Energy Industry, Rechargeable Battery

### 10 Years in Li-ion Battery Business

Mass production of Li-ion rechargeable batteries began in July, 2000. Most Li-ion rechargeable batteries at that time were 1600mAh. As a newcomer in the industry, Samsung SDI needed a strategic product which would attract the attention of the market. We therefore produced the 2000mAh cylindrical battery for laptops. This was more than just a second generation battery. Samsung SDI's first mass-produced model was a rechargeable battery with the world's largest capacity at that time. Following up, Samsung SDI has been executing its technological leadership in high capacity battery technology by developing 2400, 2600, 2800 and 3000mAh cylindrical batteries.

### Development Progress of Cylindrical Rechargeable Battery

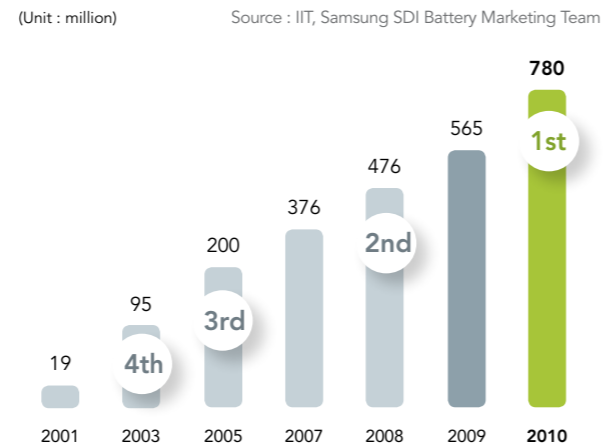


### Taking a Leap Forward to Become a Global Energy Firm

According to IIT, a Japanese rechargeable battery industry market research group, Samsung SDI was ranked No. 1 in the world in the small Li-ion rechargeable battery market in 2010. Samsung SDI ranked No. 1 with approximately 20% of market share and by selling 780 million battery cells last year. This is the biggest success since Samsung SDI advanced into the Li-ion rechargeable battery market in 2000.

Moreover, we solidified our position as the top supplier in the Li-ion rechargeable battery market by proactively responding to the market by developing both prismatic and polymer batteries for the smart phone and tablet PC market—both high growth sectors. We also began production of rechargeable batteries for mobile phones at our Vietnam subsidiary beginning in the latter half of 2010 and at our newly established production base for rechargeable batteries in Ulsan plant.

### Yearly Sales Volume of Li-ion Rechargeable Battery



### Slimmer, stronger!

Since 2010, there has been an increasing demand for high capacity batteries as tablet PCs gain in popularity and as mobile phones continue to add functionality including MP3 players and digital multimedia broadcasting(DMB). As a result, making higher capacity, slimmer and lighter batteries has become one of the biggest tasks for the rechargeable battery industry.

Samsung SDI has been recognized for its leading Li-ion rechargeable battery technology by receiving the Jang Young-Shil Award<sup>1)</sup> five times since the launch of the business in 2000. Specifically, we received the award by increasing the energy density to volume for prismatic battery by 12% over the previous year, therefore increasing talk time by 30 minutes and waiting time by 25 hours in 2010. We improved battery safety from overcharging and external short-circuiting by developing a fuse in cell which can be applied to a 34mm-width battery.

1) Jang Young-Shil Award: The best industrial technology award which has been presented since 1991, co-hosted by Korea Industrial Technology Association and Maeil Business Newspaper and sponsored by the Ministry of Science and Technology.

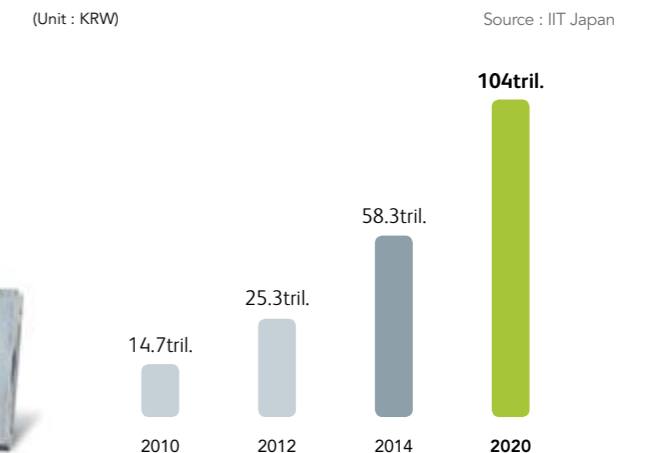


### Power of Rechargeable Battery

According to IIT, a Japanese rechargeable battery industry market research group, the rechargeable battery market will grow to become a KRW 25 trillion market in 2012. And the increasing use of smart phones, tablet PCs and electric cars as well as increasing demands for industrial and household energy storage devices will create a KRW 104 trillion market by 2020.



### Forecast of World Rechargeable Battery Market Size



### Green Technology Certificate

Samsung SDI acquired a Green Technology Certificate<sup>1)</sup> for safe design and manufacturing technology of Li-ion and Li-polymer rechargeable batteries for the first time in Korea in August, 2010. This means that its rechargeable battery design's safety and manufacturing technology has been recognized both in and outside of Korea. Samsung SDI therefore may receive incentives such as discounts for export insurance, green industry loans, marketing support for exploration of domestic and overseas sales channels, added points when participating in national R&D projects and preferential examination when applying for patents.

1) Green Technology Certificate : The Ministry of Knowledge and Economy certifies green technology and business to nurture green industry.



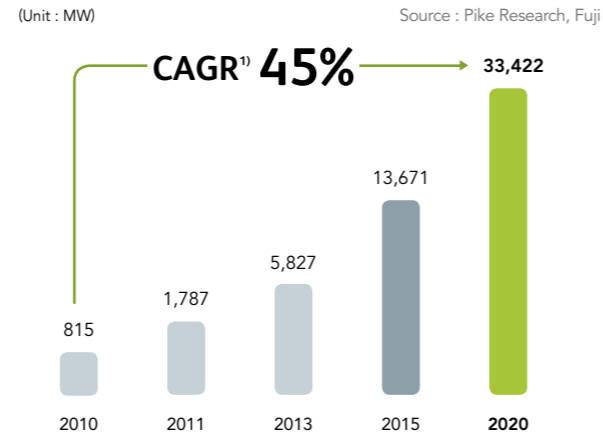
# Energy Storage System

## ESS and Speaking of Its Potential

As the era of the electric car commences and we witness the near at hand commercialization of smart grids, a solution to the problem of how to store energy more effectively will accelerate this transformation. Samsung SDI's ESS(Energy Storage System) stores and provides produced energy anytime. It is predicted that ESS will create a whole new market and will begin to grow starting in 2013 in response to the expanding electric car market and the availability of smart grids.



## ESS Market Forecast



## Features of ESS

### 1. Green

Energy efficiency can be enhanced and power systems can be reliably operated as electricity is saved when power consumption is low then consumed when power demand is high. In this way we can reduce fossil fuel consumption and green house gas emissions. By controlling the range of fluctuation in power supply once an increase in renewable energy has been established, transmission and distribution-related investment can be reduced and efficiency in use of renewable energy can be maximized.

### 2. Energy efficiency

By reducing the difference between daytime and nighttime power demands (load leveling), the cost of constructing new power plants made necessary by increasing energy demands can be avoided or reduced and efficiency of power consumption can be enhanced. In addition, this could also contribute to a nation's energy efficiency as a core element of new smart grids.

### 3. Electricity stability

By minimizing the impact on power systems through demand control due to the charging of electric cars, national power systems can achieve greater stability of operation.



## Jeju Smart Grid Test Bed Project

The construction of the Jeju Smart Grid Test Bed was started in August, 2010 to create the world's biggest smart grid village. It is the first of its kind, with all major smart grid facilities including smart green homes, buildings, electric car charging stations, etc. Located at the 6 zones, Gujwa-eup, in the north-eastern part of Jeju Island, the test bed project has largely 5 areas; smart power grid, smart place, smart transportation, smart renewable and smart electricity service. Samsung SDI is developing energy storage device technologies by participating in three areas (which are place, transportation and renewable)

Currently domestic/town ESS and wind power connected ESS are in construction and ESS for a high-speed electric car charger is already installed and is undergoing a test.



## Daegu 10kWh Domestic ESS

Korea's Ministry of Knowledge and Economy announced that Samsung SDI's 10kWh Li-ion rechargeable battery energy storage system was selected for "evaluation on commercialization of energy storage suggestion" in July, 2010. As part of this project, 100 households will be selected in Daegu city, which will be equipped with 10kWh Li-ion rechargeable batteries connected to a 3kW solar power generation system. The Ministry plans to test the possibility of commercialization of domestic ESS by monitoring power use and conducting an energy consumption analysis. Samsung SDI will develop the Li-ion cell and pack, which is the core of ESS. Based on the world's best Li-ion battery technology, it is expected to dominate the large capacity energy storage device market.

1. Jeju Smart Grid Test Bed  
2. Domestic Energy Storage System

# Rechargeable Battery for Electric Vehicle

## Heart of Future Car Industry

The auto industry is facing the reality that it has to satisfy energy efficiency as well as CO<sub>2</sub> emission standards due to high oil prices and restrictions on CO<sub>2</sub> emissions by advanced countries including the EU. Considering this situation, electric cars are becoming a real requirement for the auto industry.

Going forward, customers are going to select their cars based on mileage efficiency.

Li-ion batteries have superior energy density to weight and volume compared with Ni-MH(nickel-hydride) batteries. And thanks to excellent higher power performance, they're gaining attention as a batteries for electric cars.

IIT has forecasted that Ni-MH(nickel-hydride) batteries are mainly used for hybrid electric vehicles(HEV), but that they will be replaced by Li-ion batteries in 2013 or thereafter.

## SB LiMotive

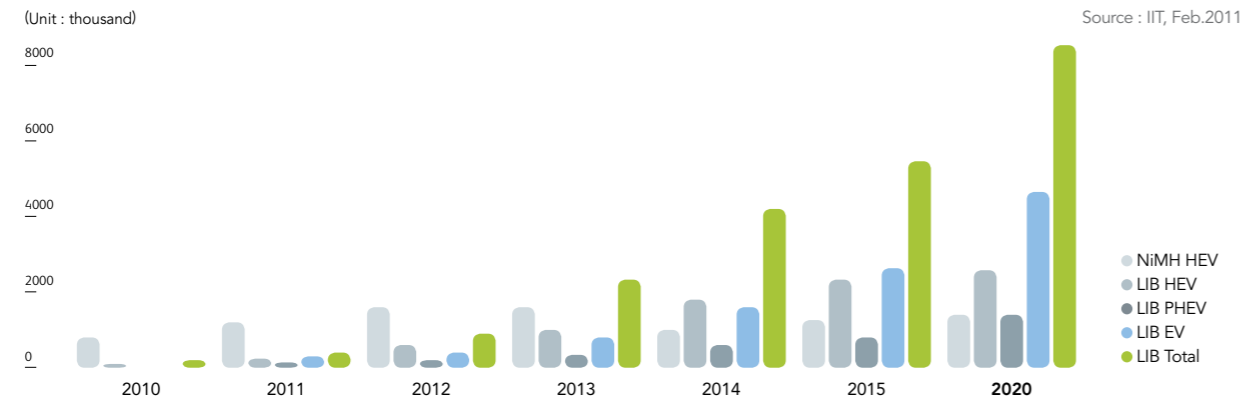
SB LiMotive, a joint venture established by Samsung SDI and Bosch of Germany, completed construction of a large electric vehicle battery production line in Ulsan in November 2010. After test operating one line of the facility which began construction in September 2009, the production of vehicle Li-ion rechargeable battery cells and packs will be produced from the first half of 2011.

SB LiMotive has established the global operation system in major areas of Asia, Europe and U.S.A.. It develops and designs vehicle battery systems in Korea, Germany and U.S.A., produces the system in Ulsan, Korea and researches the system in Giheung, Korea and Stuttgart, Germany. Moreover, SB LiMotive took over Cobasys, a U.S. vehicle battery manufacturer in July 2009 and owns a R&D center in Oregon and Michigan, U.S.A. as well as a cutting-edge production facility in Springboro, Ohio.



SB LiMotive Ulsan Plant

## Forecast of Electric Car Battery Market



## Order Status of SB LiMotive xEV Battery

SB LiMotive was chosen as the exclusive supplier of batteries for EV 'i3' and plug-in hybrid cars by the prominent German automaker BMW in August 2009. In December 2009, SB LiMotive was selected as the sole supplier of Li-ion batteries for hybrid commercial vehicles by Delphi of U.S.A., with supplies to begin in 2012 and to last for ten years. Moreover, it was also selected as a supplier of battery packs for 'Fiat 500EV' by the U.S. automaker Chrysler in November 2010.



## Participate in the Development of U.S. Next Generation EV Batteries

SB LiMotive announced in March 2011 that its U.S. subsidiary, Cobasys will develop a next-generation battery for EV jointly with the United States Advanced Battery Consortium(USABC). USABC is a consortium of the U.S. Energy Department and three U.S. automakers, GM, Ford and Chrysler which develops high performance batteries for EV, HEV and PHEV. It plans to develop, with USABC, a next-generation battery which will be applied to EV for three years beginning in 2011 and will receive 50% of the development expenditure (8.4 million dollars) from USABC. The goal of the project is to develop a high capacity battery, 70% higher than the existing one, and to reduce the price of batteries, which is a stumbling block for commercialization of electric cars. Therefore, it is expected that SB LiMotive will play a leading role in commercializing electric cars with its technological capabilities.



# Next-Generation Energy Technology Development

## Next Generation Solar Cell

Dye Sensitized Solar Cells(DSSC), is a technology to produce electricity using the same principle as photosynthesis. It is a next-generation solar cell which is cheaper than widely-used silicon semiconductor solar cells, transparent, and can be produced in various colors.

DSSC, which is made of inexpensive organic dye and nano technology, is inexpensive and highly energy efficient. Therefore, the production cost can be reduced by 1/3 or a maximum of 1/5 that of a silicon semiconductor solar cell. Also, when it is applied to glass, it will not spoil the beauty of buildings as it is transparent and can be produced in various colors. It can be directly applied to windows of a building or a car.

Samsung SDI will satisfy eco-friendly demands of various companies through the development of DSSC core technologies.



Dye Sensitized Solar Cell

## Development of Fuel Cell MEA for Vehicles

In the automobile industry, environmental restrictions get stricter and power gets eco-friendlier. Energy efficiency and non-fossil fuel power sources and EV(Electric Vehicle) and FCV(Fuel Cell Vehicle) have become a major trend in the eco-friendly car market due to energy resource issues .

Fuel cells produce electricity to run an electric motor and during the process only water, electricity and heat are generated, making FCV a complete eco-friendly car. Moreover, improvement of fuel cell efficiency makes long distance driving possible.

The unit cell of fuel cell, Membrane Electrode Assembly (MEA) makes up approximately 40% of the cost of a FCV fuel cell system and is a core part which are commonly utilized in all applications of fuel cells.

Samsung SDI will develop MEA core technologies including membrane/catalyst material technology, catalyst structure control technology, water quality management and design technology as well as price reduction technology as part of the core material for its vehicle business. Samsung SDI will therefore secure credibility for its technologies by establishing MEA R&D foundation.

## Development of New Non-Cobalt Cathode Active Materials

Development of high capacity rechargeable material is required to advance the era of the electronic car. To secure competitiveness, EV must expand its mileage. Therefore, the capacity of rechargeable batteries should be increased. All the circumstances require high-capacity, low-priced innovative battery materials. Samsung SDI is developing new high-capacity cathode materials to reduce the unit price through replacement of limited resources such as cobalt and lithium and to increase the cell capacity while maintaining safety and long life span required by batteries for EV.

## Observing Regulations on Hazardous Substances in Products

Samsung SDI is working continuously to eliminate hazardous halogen materials which will be regulated in the near future to fulfill customer's demands while observing RoHS (Restriction of Hazardous Substances Directive) and the European Community's REACH(Registration, Evaluation, Authorization and Restriction of Chemical Substances). We became dedicated to eliminating halogen compounds from Li-ion rechargeable battery cell parts and pack parts in 2010. By publishing a 「XRF(X-ray fluorescence spectrometer) guidebook」 the purpose of which is to promptly identify hazardous chemical substances in products, we provided training to domestic and China subsidiaries and improved the hazardous substance management processes. Accordingly, IT Li-ion batteries produced by the Battery Business Division satisfy the requirements for hazardous halogen substances.

We manage matters regarding international environmental regulations such as hazardous chemical substances in products and REACH through Green Purchasing System in Mega STEP, a portal purchasing system of Samsung SDI suppliers and Samsung SDI's Sustainability Management Integrated System(SMIS). Moreover, Samsung SDI's Li-ion battery does not contain mercury and cadmium which are restricted by the European Battery Directive and observe the labeling requirement.

# Display

## Continuous Growth with 3D PDP TV

In 2010, The PDP market grew rapidly from the previous year due to the frenzy over 3D TV. Therefore, Samsung SDI's PDP Business Division posted a yearly surplus by selling 6.4 million TV sets in 2010, a 36% increase over 2009. It is expected that sales in 2011 will be similar to that of 2010, mainly due to sales in emerging markets such as China. In addition, with the launch of digital broadcasting and increasing demands for 3D TV, there is likely to be increasing demand for 50 inch plus high value added products.

## Energy Efficient Product

Samsung SDI PDP Business Division recognizes increasing TV energy efficiency to be a necessary requirement for product competitiveness. In both 2009 and 2010, we improved PDP electric consumption through our newly launched U-series products, satisfying EU ErP<sup>1)</sup> directive and US Energy Star Standards. Samsung SDI will continuously make efforts to improve energy efficiency.

1) EU ErP (Eco-design requirement for Energy related Products)

## Slim CRT

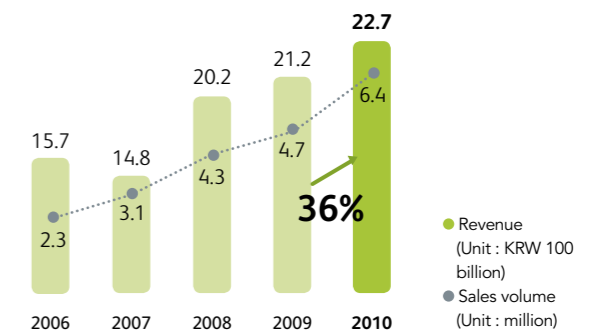
Due to growing demand for flat panel TVs, sales of CRT (Cathode Ray Tube) products are on a downward trend even in China, India and northeast Asian markets. According to a report published in November, 2010 by Samsung Economic Research Institute, the sales volume of CRT TV tumbled from 53 million units in 2009 to 43 million units in 2010 and is expected to decrease to 28 million units in 2011, a 36% decrease from the previous year. Despite such a market environment, Samsung SDI plans to expand sales of the 21 inch slim CRT UXF due to relatively high demand and effectively operate its existing production lines in Malaysia and Shenzhen, China.



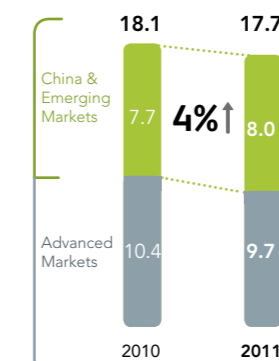
Samsung SDI PDP module-applied 3D PDP TV

## Samsung SDI's Annual PDP Sales Volume & Revenue

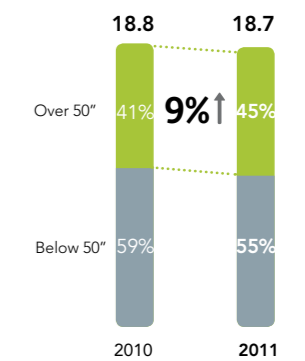
Source : Samsung SDI PDP Management Team



## 2011 PDP TV Market Forecast by Region



## 2011 PDP Module Market Forecast by Size



Unit : million  
Source : Display Search(2010.4Q)

# 03 Eco-Value Creation

All of Samsung SDI's production and R&D facilities around the world maintain environmental management systems that adhere to ISO 14001 standards and make efforts to create businesses that contribute to the coexistence of humans and the environment through various practical environmental activities. We adopted a target of improving environmental efficiency of production processes in 2005 and have disclosed our achievements every year through 2011 not only to minimize the environmental impact of production but also to continue to create eco-value through innovative future technologies. We identify environmental impact of the entire life cycle to prevent resource depletion due to mass production and consumption, environmental pollution and climate change caused by green house gas emissions. Based on that, we will consider what we can do as a responsible corporate citizen and provide solutions for the coexistence of earth and people and for sustainable growth.

1)Efficiency refers to eco-efficiency and is expressed as sales(KRW 100million)/environmental load(environmental load unit).

## Quantitative Calculation of Environmental Impact

In 2010, we calculated the material input, material output and environmental impact of PDP and battery products produced in domestic production facilities and R&D activities.

Increased sales volume raised the volume of material input and output, yet pollutant output decreased and environmental efficiency of production was enhanced in 2010 compared with 2009.

Category	2008	2009	2010
<b>Indirect CO<sub>2</sub> emissions (Samsung SDI<sup>1)</sup>)</b>	457kilotCO <sub>2</sub> e	481kilotCO <sub>2</sub> e	521kilotCO <sub>2</sub> e
<b>Indirect CO<sub>2</sub> emissions (Consumers<sup>2)</sup>)</b>	794kilotCO <sub>2</sub> e	648kilotCO <sub>2</sub> e	674kilotCO <sub>2</sub> e
<b>Material input<sup>3)</sup></b>	• steels:31,065ton • papers:3,829ton • glasses:49,364ton • chemicals:53,386ton • plastics:9,394ton • others:14,769ton	• steels:37,994ton • papers:3,439ton • glasses:58,933ton • chemicals:40,294ton • plastics:5,507ton • others:19,634ton	• steels:34,923ton • papers:7,349ton • glasses:68,934ton • chemicals:44,079ton • plastics:15,345ton • others:17,058ton
<b>Water usage<sup>4)</sup></b>	4,733kiloton	4,592kiloton	4,808kiloton
<b>Volume of products sold<sup>4)</sup> and waste</b>	84,760ton	100,678ton	142,835ton
<b>Waste recycling<sup>5)</sup></b>	32,897ton	30,559ton	34,469ton
<b>Direct CO<sub>2</sub> emissions<sup>1)</sup></b>	34kilotCO <sub>2</sub> e	35kilotCO <sub>2</sub> e	36kilotCO <sub>2</sub> e
<b>Waste water<sup>6)</sup></b>	4,363kiloton	4,561kiloton	5,776kiloton <sup>8)</sup>
<b>Waste landfill<sup>1)</sup></b>	3,928ton	2,343ton	1,217ton
<b>Pollutant emissions<sup>6)</sup></b>	• COD : 434ton • SS : 216ton • Dust : 16ton	• COD : 290ton • SS : 194ton • Dust : 13ton	• COD : 235ton • SS : 146ton • Dust : 15ton
<b>Waste generation<sup>5)</sup></b>	8,059ton	6,828ton	9,184ton
<b>Waste recycling<sup>7)</sup></b>	73,148ton	79,633ton	97,299ton

### Relevant facts

- Cheonan Plant, Ulsan Plant, Giheung Headquarters
- Based on PDP U2 products and 1,460 hours of use per year
- Based on Cheonan and Ulsan Plants, PDP and battery raw materials and utility
- Based on PDP and battery sales volume of Korean premises
- Based on waste materials(packaging) related to Samsung SDI products

- Based on water use and waste water at Cheonan and Ulsan Plants
- Based on input materials, applied theoretical recycling rate
- Waste water in 2010 includes recycled water among waste water generated in the Samsung Mobile Display production process at Cheonan Plant

## Effort for Environmental Sustainability

Considering both past and future performance, in 2008 Samsung SDI established a new environmental goal for more environmentally efficient manufacturing. Since then we have been taking steps to achieve the goal of realizing low carbon, eco-friendly, sustainable manufacturing processes for three years until 2011. We will continue to disclose our future plans after 2011 through sustainability reports and we will continue to pursue the creation of eco-value. By minimizing environmental load and producing highly value added products at the same time, we will become a sustainable, eco-friendly and profitable company through improvement of environmental efficiency.

### 2011 Environmental Sustainability Goal

Eco-friendly	Strategy	Index	Criteria(2005)	Achievement(2010)	Goal(2011)
Manufacture	Establish more environmentally efficient manufacturing process	GHG emission	1,172,254tCO <sub>2</sub> e, 45.47 <sup>1)</sup>	770,502tCO <sub>2</sub> e, 65.58	300,000tCO <sub>2</sub> e reduced GHG emission efficiency 1.5 times improved
		Water usage	3.06 <sup>1)</sup>	6.03	Water usage efficiency 1.5 times improved
		Waste output	0.42 <sup>1)</sup>	0.91	Waste output efficiency 1.3 times improved
		Waste recycling <sup>2)</sup>	89.8%	91.8%	95% and more
		Waste landfill	10.2%	8.2%	5% and less
		Hazardous chemical substance usage	1.11 <sup>1)</sup>	1.75	Hazardous chemical substance usage efficiency 1.2 times improved

- Efficiency refers to eco-efficiency and is expressed as sales(KRW 100million)/environmental load(environmental load unit).
- Recycling rate includes heat collecting from incineration.

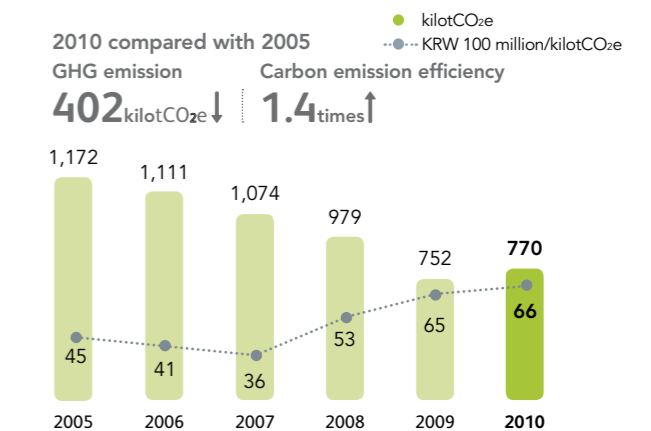
## GHG Emission from Manufacturing

### Restructured as a smart energy firm to accelerate the low carbon manufacturing system

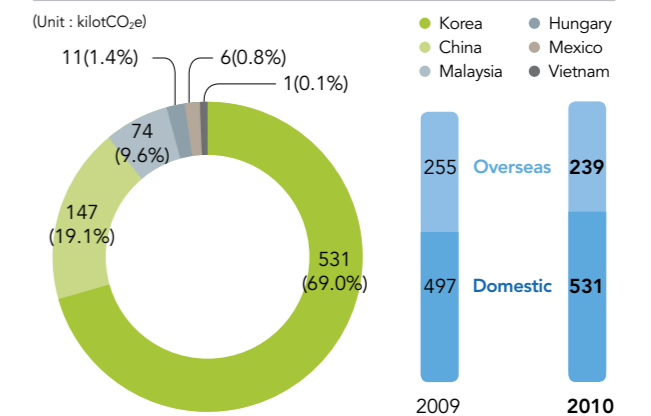
The GHG emission efficiency was KRW 6.6billion/kilotCO<sub>2</sub>e as Samsung SDI's all manufacturing facilities emitted GHG of 770kilotCO<sub>2</sub>e in 2010. The total emission was reduced by 402kilotCO<sub>2</sub>e from the base year (2005), 1.4 times increase in the GHG emission efficiency.

Looking at the emission by country, Korea emitted 531kilotCO<sub>2</sub>e (69.0%), China 147kilotCO<sub>2</sub>e (19.1%), Malaysia 74kilotCO<sub>2</sub>e (9.6%), and Hungary 11kilotCO<sub>2</sub>e (1.1%). Mexico and Vietnam emitted a small amount, 6kilotCO<sub>2</sub>e and 1kilotCO<sub>2</sub>e, respectively.

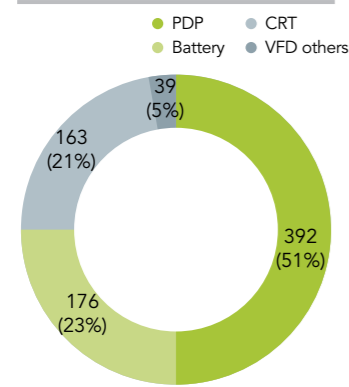
### Annual GHG Emission



### GHG by Country



### GHG by Product



### Direct/Indirect GHG



Due to continuous restructuring from a display-based to an energy-oriented firm, the emission by overseas subsidiaries decreased compared to 2009, yet that of domestic facilities which house the rechargeable battery production facility have seen a slight increase.

Looking at GHG emission by product, PDP emitted 392kilotonCO<sub>2</sub>e, rechargeable battery 176kilotonCO<sub>2</sub>e, CRT 163kilotonCO<sub>2</sub>e, and VFD and others (HQ and research centers) 39kilotonCO<sub>2</sub>e. 690kilotonCO<sub>2</sub>e was indirectly emitted (electricity and steam) and 80kilotonCO<sub>2</sub>e was directly emitted (stationary combustion). As Samsung SDI emits 90% GHG indirectly, We have been making continuous efforts to reduce energy consumption.

#### Greenhouse gases accounting criteria

We applied the Intergovernmental Panel on Climate Change's(IPCC) 2006 Guidelines for National Greenhouse Gas Inventories and the 2004 GHG Protocol published by the World Resources Institute and World Business Council for Sustainable Development(WBCSD). Domestic operations calculate GHG emission based on the Guidelines for GHG Energy Target Management and Operation, of 'The Framework Act on Low Carbon Green Growth'.

### GHG Reduction Efforts

The Cheonan plant reduced LNG consumption, a heat source of the self-steam production by continuing supply of surplus steam generated by the Cheonan household waste incinerator again in 2010 following 2009. And our reduction effort was recognized by the government by reducing GHG of total 12,613tCO<sub>2</sub>e.

The Hungary subsidiary reduced GHG emissions to 12,000 tCO<sub>2</sub>e against its emission allocation through boiler energy consumption reduction as it was applied by EU ETS(EU Emission Trading Scheme) and created additional revenue through carbon credit trading.

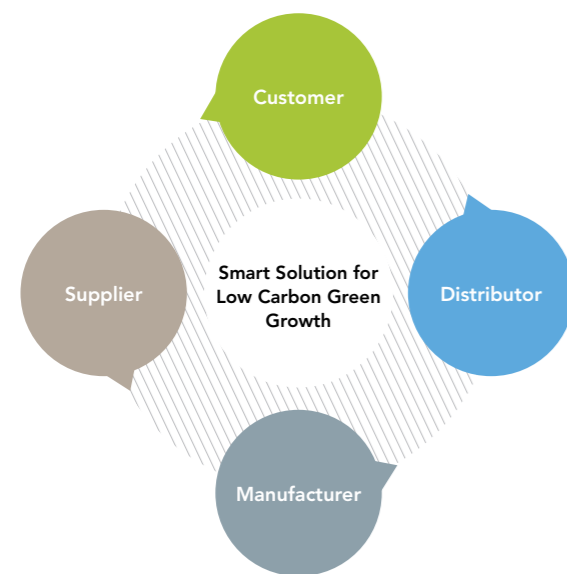
### Low Carbon and Eco-Friendly Solution Company

The world is ailing due to climate change. International society has discussed nation-wide GHG reduction and has enacted forceful regulations to reduce CO<sub>2</sub> emissions, a main cause of global warming since the industrial revolution. Companies which are able to create low carbon goods and services will become the leaders of the 21<sup>st</sup> century and continue to grow as a global company.

Samsung SDI is restructuring itself from a display-based company to an energy-oriented company. We are expanding our operations to include not only small batteries but also batteries for EV, large capacity energy storage devices, solar cells and fuel cells. Samsung SDI is seeking to maximize its power efficiency and produce low carbon goods and services in the energy business. By developing solutions for radically reducing GHG emissions, Samsung SDI is ready to play a central role in the climate change era.

### Low Carbon Management, Expand to Include Suppliers

Samsung SDI is preparing to introduce an energy management system for the entire company which will manage GHG, energy usage, as well as carbon productivity during the manufacturing process. Moreover, by recognizing suppliers as an crucial partner in low carbon management, we are implementing 'The spread and development of low carbon partnership into large and medium/small enterprise of electrical & electronics industry for addressing climate change and GHGs reduction' which will improve climate change preparedness and reduce GHG emissions as a national project of the Ministry of Knowledge & Economy. We will reduce GHG emissions during the entire production process by managing carbon in the entire supply chain.



### Environmentally Efficient Manufacturing

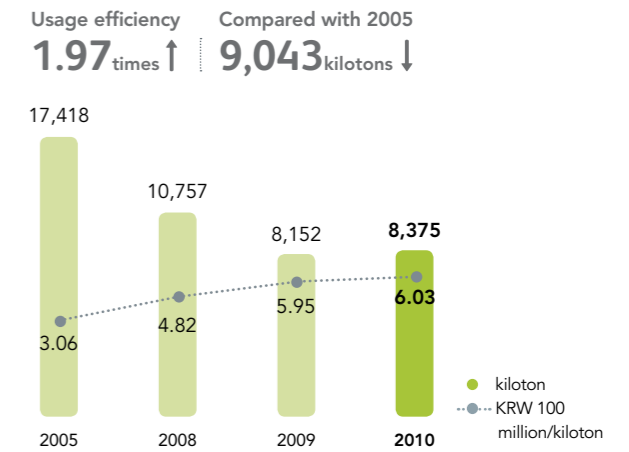
#### Becoming an eco-friendly company realizing eco-efficient manufacturing processes

Samsung SDI's global business sites collectively used 8,375kilotons of water for manufacturing purposes in 2010. That is a decrease of 9,043 kilotons compared to 2005 due to an incremental decrease of water usage in the CRT business which requires relatively large amounts of water. In 2010, we used more water than in 2009, but water usage efficiency has been continuously increasing. Overall, we saw 1.97 times of improvement in water usage efficiency compared to 2005. We will further increase water usage efficiency by using water efficiently as well as continuously expanding our energy business which consumes a comparatively much smaller amount of water.

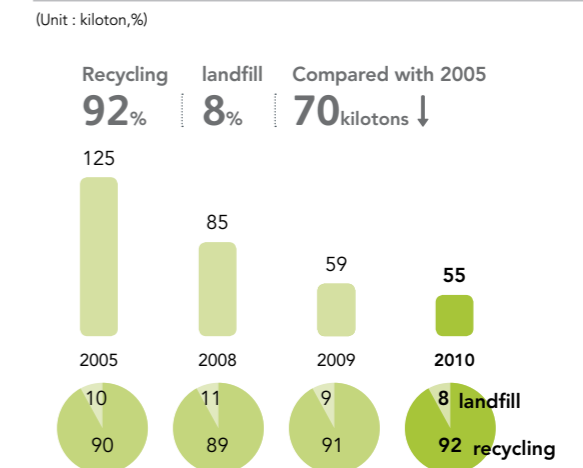
In 2010, Samsung SDI generated a total of 55 kilotons of waste. Of that amount, 92% was recycled and the remaining 8% went to landfills. Waste recycling is an important matter for resource circulation. Samsung SDI's efforts will require the improvement of the social recycling system. Our target is to reach a waste recycling rate of 95% by 2011, including overseas subsidiaries. We will strive to curb waste generation from the production stage and increase the recycling rate to promote greater resource circulation. Also, we will make every effort to minimize landfill waste.

Despite its contribution to an overall improved quality of life for all, chemical substances are becoming increasingly restricted both domestically and abroad due to its hazards. Samsung SDI has designated 24 types of hazardous chemicals and their total use in 2010 reached 29 kilotons. Chemical use fell by 19 kilotons compared to 2005 and its usage efficiency increased by 1.6 times. We intend to reduce and reuse chemicals during manufacturing and in environmental utility facilities through continuous development of our manufacturing processes.

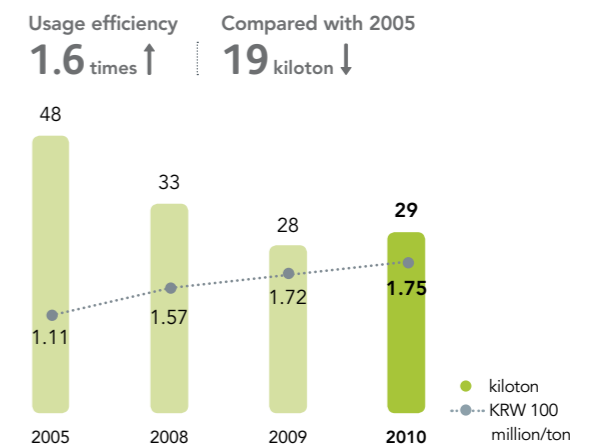
### Water Usage



### Waste Output



### Hazardous Chemical Substance Usage





Removing foreign plants, planting trees and installing a sand collector to restore natural habitat of Sohwangsgu (ecological landscape preservation area), located in Boryeong, Chungnam

### Continuous Effort to Restore Biodiversity

Healthy ecosystems can be maintained when various plants and animals live in balanced and appropriate habitats which allow them to continuously reproduce. Samsung SDI's Cheonan plant, along with government, civic groups and suppliers, continues its effort to restore the habitat and biodiversity of the ecological landscape preservation area. Besides that, all operations of Samsung SDI around the world engage in vari-

ous activities to improve the environment and to preserve ecosystems such as "one stream to one company", "one mountain to one company" as well as other green campaigns.

### Legal Compliance

In 2010, there was no instance of violation of environment related laws or agreements at any of Samsung SDI's business sites, either domestic and overseas.

### Investment in Environmental Facility and Environmental Management Activities

Samsung SDI's domestic plants utilized KRW 89.838 billion for investment in environmental facility and environmental management of manufacturing in 2010. (Unit : KRW million)

Type of activity	Investment <sup>1)</sup>	Cost <sup>2)</sup>	Benefits <sup>3)</sup>	Details
Treatment	7,057	69,806	15,701	Operation of in-house environmental facilities, consigned treatment, others
Prevention	1,670	20,540	1,653	Environmental education, measurement & analysis, audit, waste management, process Improvement
Stakeholders	0	11	9	Support for environmental groups and local communities, environmental events
Legal compliance & remediation	0	29	0	Surcharge on waste, insurance

1) Investment : Investment related to environmental activities

2) Cost : Internal cost related to the environment and external cost related to emissions and products

3) Benefit : Tangible gains (eg, cost savings from environmental activities and cost reductions), reduced risk, intangible benefits contributed to society

## Environmental Management and Energy Management

### Environmental Management System (EMS)

Samsung SDI's Ulsan plant acquired ISO 14001 certification in September 1996. Now, all production facilities around the world are operating the environmental management system and were certified by a third party. In the latter half of 2010, the Vietnam subsidiary introduced the environmental management system when it started up its production line and acquired ISO 14001 certification in January 2011.

All Samsung SDI's production facilities identify their environmental impact on a regular basis and continue to make improvements through the operation of the environmental management system.

### Establishment of Energy Management System (EnMS)

Due to high oil prices, the industry is placing greater focus on efficient energy use. As environmental management received greater attention in the 1990s, the environmental management system standards, ISO 14001, was issued in September 1996 and spread around the world. Since 2008 there has been a movement to make Energy Management System, or EnMS, into the international standard. ISO 50001 will be issued in 2011. As an eco-friendly and clean energy solution company, Samsung SDI organized the EnMS Task Force Team in December 2010 to actively implement energy management at all its business sites. In addition, it established the energy management system establishment plan and is implementing it as it constructs new infrastructure and conducts training.

### ISO 14001 Certification Status

	Business sites (subsidiary)	Year of certification
Korea	Giheung	2006
	Cheonan	1998
	Ulsan	1996
China	Tianjin	2004
	Shanghai	2003
	Shenzhen	1999
Malaysia		2004
Mexico		2000
Hungary		2005
Vietnam		2011

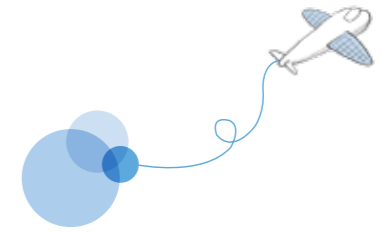
### Samsung SDI Energy Management Guidelines

Samsung SDI implements energy management in all its business areas including R&D, purchasing, production and sales as an eco-friendly and clean energy solution company. Therefore, we achieve the energy and GHG reduction goal and minimize environmental impact of energy consumption.

- 1. Energy laws and international convention compliance**  
We comply with energy-related laws and international conventions and establish and implement stricter internal standards.
- 2. Achievement of energy performance goal**  
We establish voluntary energy management goals and continuous improvement programs (new energy technologies, high-efficient facilities and service purchases) and achieve energy goals through regular evaluation.
- 3. Maintaining of eco-friendly and clean energy solution company corporate culture**  
We maintain a corporate culture which continuously pursues best business sites in terms of energy management through continuous training and promotion to improve awareness of employees.
- 4. Realization of partnership with local community**  
We disclose our energy management guidelines to stakeholders and create mutual trust by realizing sustainable community.



# 04 Compliance · Ethics Management



Recently, there has been an increasing compliance-related risk both at home and abroad due to punitive damages, criminal penalties, and class action lawsuits. Moreover, there is a greater focus now on corporate social responsibility, which has become more standardized. Therefore, companies recognize that compliance management and ethics management are not just simple risk-management tools; they are crucial to business success and must be thoughtfully and rigorously implemented.

## Compliance Management

Samsung SDI has established and implemented a compliance program which encourages employees to voluntarily comply with business related laws, including antitrust laws. In May 2010, at our 40<sup>th</sup> anniversary ceremony, we declared compliance management and began focusing our efforts on establishing a foundation for it, including development of a compliance system and compliance training to employees by organizing a compliance team. This compliance system, inaugurated in October 2010, is an integrated portal system which supports compliance activities. It includes inspection, self-test functions and operation standards, education materials, manuals, the latest trend in laws and regulations, Q&As for employees as well as suggestions.

Moreover, we made operation processes and standards clear by getting an approval from the the board of directors for the highest regulation in compliance regulation Compliance Management Guidelines and other sub-regulations including Regulation on Operation of Compliance Officer, Code of Conduct for Employees and Fair Trade Compliance Management Regulations.



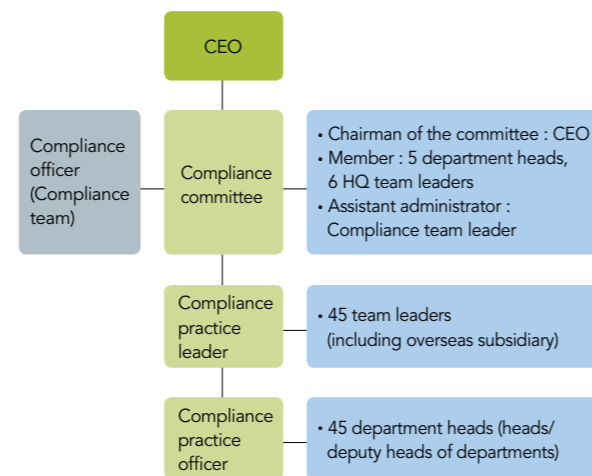
Samsung SDI Compliance System

In 2011, we will establish a circular process of prevention, regular inspection(monitoring), evaluation, after management. And we will prevent the risk of violating laws in 6 areas,

including market competition, product liability, financial accounting, intellectual property, environment and labor. The compliance management education will be executed in various ways such as online curriculum, lectures by outside experts and education for suppliers.

Moreover, we will implement on-site inspection through co-work with departments and identify and improve legal compliance risks. Besides this, we will raise employees' compliance awareness and therefore make compliance management part of our corporate culture by strengthening the roles of compliance practice leaders and each department's officers in charge of compliance practices, which is to establish a voluntary compliance management system in each department.

### Compliance Management Organization



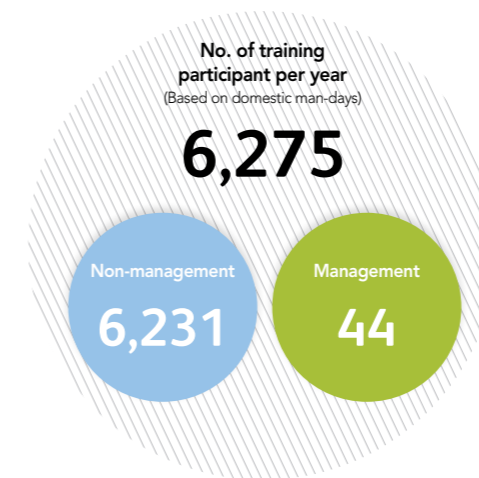
## Anti-Corruption

### Corruption Prevention Training for Employees

We conducted corruption prevention training for all employees with the declaration of compliance management in 2010. We conducted trainings for various levels including assistant administrators, employees, resident employees and new em-

ployees, and strengthened training for departments which are related to stakeholders such as suppliers and customers. We plan to provide corruption prevention training to all employees in 2011. Specifically, we plan to provide the training to department heads and upper-level employees in Korea and to resident officers and local managers in China. In turn, they will provide education to their subordinates. In addition, the corruption prevention training will be included in the entry level course for new employees and employees receiving promotions.

### No. of Legal Compliance and Corruption Prevention Training Participants in 2010



### Monitoring and Handling Unethical Conduct

Suppliers, customer contact points and other departments with a high risk of corruption are subjected to inspection at all times. The probe focuses on transaction performance and collusive relationships with certain firms. We also look for signs of fraud by systematically reviewing abnormalities in payments. Samsung SDI gathers information about ethi-

cal misconduct through the reporting function on our ethical management website.

For two months starting in August 2010, we conducted a regular corruption inspection across all departments and dismissed 11 violators and disciplined 39. In 2011, our plan is to strengthen fraud monitoring aimed at preventing corruption with suppliers and also inside the company and then reinforce fraud inspection at our overseas operations such as those in China.

### Legal Compliance

Since November 2007, there have been ongoing investigations on alleged antitrust violation relating to CRT products in Korea, the U.S., Japan and the European Union. In Korea, the Korean Fair Trade Commission reviewed the case and imposed the penalty at the end of January 2011, and in the U.S. we are waiting for the final approval by the court on the agreement between the U.S. Department of Justice and us. In Japan, the decision by the Japanese Fair Trade Commission is appealed by us and the case is currently on an administrative review. In Europe, the investigation is still ongoing and we do not have a concrete idea as to the timing of their decision.

In 2010, Samsung SDI was not issued any penalties or sanctions for violating laws and regulations of the countries in which we operate or any international treaties.



# 05 Employees and Corporate Culture

During 2010, all employees of Samsung SDI proactively worked together to turn ourselves into a creative company under the slogan of Work Smart while putting into practice a culture of communication. We have expanded communication opportunities between management and labor, executives and employees and among departments, shunned authoritarianism and excessive concern with formality, and striven to establish an organizational culture in which employees can work with vigor and confidence. To that end, we have improved how our employees work by promoting institutional and cultural innovations to support work-life balance. In addition, we are committed to creating an environment where female workers can show their capabilities to the fullest.

For 2011, Samsung SDI has introduced the slogan "So Good Company" for the innovation of organizational culture, establishing the three core values of Passion, Communication, and Challenge. Centering on the newly created division for corporate culture innovation, Samsung SDI is fostering new values for all its employees.

## Corporate Culture

Communication is a value needed to acknowledge differences and respect diversity. By emphasizing communication based on trust and communication we can make our workplace more energetic thus promoting interdepartmental synergy.

In 2010, SDI conducted a variety of activities to establish a culture of communication, established a direct communication channel between employees and management, improved its business meeting culture, introduced the flexible time system, set up a counseling center, and implemented communication training programs.

### Communication 2010 Program

To encourage positive changes amongst employees and build a corporate culture based on communication and trust, we offered Communication 2010 programs for all employees. Two-day training camps for each level and job group offered diverse programs such as Open Mind, Drama Theatre, and Win-Win Communication Game to encourage communication between employees and give them an opportunity to reflect on themselves for change. Furthermore, Making Resolutions for My Dream & Hand-Printing program helped them to renew their determination. Participants were highly satisfied with the Communication 2010 program which provided not only lectures, but also physical and art activities.

### Operating Field of Communication

Samsung SDI operates bulletin boards and blogs for communication on the intranet. Field of Communication consist of various menus. For example, Q-topia provides answers to employees questions within 24 hours, and Notice updates news of domestic and international business sites.



Communication 2010 Program



1. 4. 5. SDI Guinness Competition  
2. Vision Cube  
3. SDI Olympics  
6. Feel So Good Photo-Taking Event



In particular, open questions and swift answers at Q-topia encourage employee participation. Moreover, Communication Blog, rather than formal notification, is maintained to deliver corporate news. The blog helps employees communicate more freely and develop more interest in the company.

### Open Counseling Center

Samsung SDI operates an open counseling center and offers various programs to promote individual counseling and communication in each department. In 2010, each business site operated diverse programs under the subject of communication. Exciting Picnic with Annie at the Giheung headquarters contributed to refreshing the atmosphere of the site by deepening the understanding of other colleagues personal traits and preventing possible conflicts. Furthermore, Empathy Plus at the Cheonan plant and the Toc Toc program at the Ulsan plant helped our employees gain greater mutual understanding through MBTI and Enneagram personality testing.

In 2010, we started to operate e-counseling, an on-line counseling program. The program provides a professional counselor who can talk with employees about their grievances and conduct a psychological test. Other programs help to relieve employees' stress resulting from their jobs and surroundings. These include Stress Scan Clinic at the Giheung headquarters and Eye-Witnessing My Stress at the Cheonan

plant, which help employees be aware of their mental health and respond to their issues so that they can concentrate on their work. In 2011 we have a plan to provide special lectures on mental health by inviting outside lecturers. The open counseling center also offers Test for Married Couples and Edu-Clinic programs for employee family members, and will continue to expand psychological testing for employees' families in 2011.



Stress Scan Clinic

## Employee Status

As of end of 2010 Samsung SDI employed a total of 12,662 people, including contract and dispatched workers which is similar to that of the previous year. The total turnover rate significantly declined to 21% in 2010 from 34.6% in 2009. The decline is attributed to the completion of restructuring of the CRT business at overseas subsidiaries during 2009.

- Refer to social performance on page 51
- In accordance with the GRI G3 Guidelines, the turnover rate was calculated by dividing the number of those who resigned in 2010 by the number of employees as of end of 2010. This can be different from the typical turnover rate calculation method.
- When calculating the turnover rate, branches and offices with less than 20 employees were excluded

## Labor Management Relations

Samsung SDI guarantees freedom of association and the right to collective bargaining underpinned by our principle of compliance management. We also operate a Labor Council to resolve employee grievances, protect their rights and enhance their quality of life. The council is comprised of the same number of labor and management representatives and discusses how to improve working conditions, wages and other employee benefits, and also resolve complaints. The results of consultations are notified to all employees and applied to corporate policies. When major corporate changes such as policy changes and restructuring require labor-management agreement, the council listens to employees' voices, conducts in-depth discussions, and shares the results with employees without delay.

## Nurturing Talents & Career Development

In 2010, in an effort to focus on the energy sector and promote new businesses, we committed to nurturing the next generation's energy experts and business leaders. We also encouraged individual changes in order to create a corporate culture of creativity and trust.

Centering on the battery talents training center at our Cheonan plant, we set up education programs to cultivate battery professionals and executed in-depth training. In August of 2010, we opened Brand U, a job posting program on the intranet to help employees develop leadership skills through various job experiences. The Brand U program is expected to serve as a catalyst for future personnel transfer and self-development. To lay the foundation for a corporate culture of creativity and communication, we implemented an education program for all employees to bring about positive changes and communication.

For 2011, we plan to step up our efforts by taking on three major tasks: establish a creative educational environment, strategically nurture the next generation's leaders, and strengthen global communication skills.

## Principle of Respecting Human Rights

Guided by Samsung Business Principles of Respect for Individual Diversity and Dignity, Samsung SDI respects basic human rights. All our business activities are based on the spirit of respecting human rights. Therefore, our major investment decisions and supplier transactions are all governed by our principle of respecting human rights.

## Prohibition of Forced/Child Labor and Discrimination

We abide by the International Labor Organization Conventions and domestic labor-related laws. Therefore, we strictly prohibit child and forced labor in every country where we operate. In conducting our everyday business activities we forbid any discrimination based on skin color, sex, religion,

social status, age, political stance, and nationality. Depending on one's ability and aptitude, all employees are given fair opportunities and performance-based compensation. During the reporting period, there were no violations of policies regarding child labor, forced labor or discrimination.

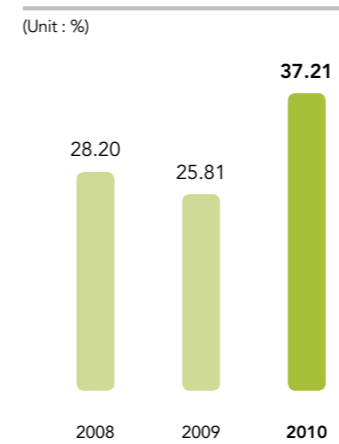
## Diversity and Equal Opportunities

### Female Employees

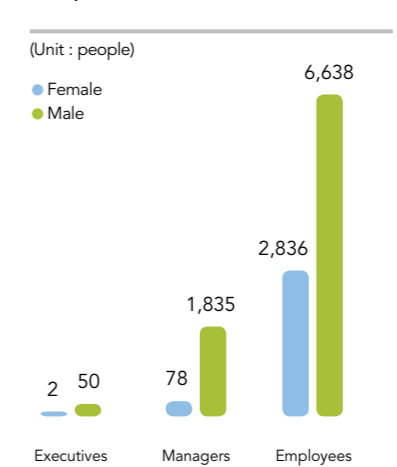
Samsung SDI makes no differentiation between men and women in terms of personnel policy and compensation and strives to create conditions in which female workers can reach their full potential. We also maintain the ratio of new female

recruits among the total new university graduate employees and pay attention to increasing women's social participation opportunities, creating women-friendly working conditions and improving women's expertise. Among other things, in 2010, we operated a women's board comprised of female executives at each business site to implement policies aimed at leveraging female talent and reforming unfair systems. For 2011, we established targets of increasing the ratio of female executives and new female recruits among university graduate employees thereby promoting development opportunities for female employees. In addition, we plan to invest in improving childcare infrastructure such as maternity lounges.

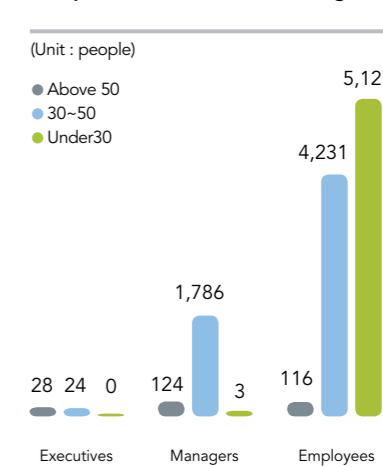
Ratio of New University Graduate Female Recruits



Composition of Workforce Per Gender



Composition of Workforce Per Age



## SDI Strategies to Nurture Talents



## Operation of Women's Board

In consideration of society's increasing interest in fully integrating women into the workforce, we established Measures to Better Use Female Workers in August, 2010 and installed a Women's Board in order to implement the measures. Comprised of 11 female executives from various job groups, the Board listens to women's voices and thus helps to strengthen the bonds between female employees. Board members also serve as a role model for juniors in their efforts to build up capabilities of female leaders.

In 2011, the Board plans to hold two separate workshops and invite successful women leaders to give lectures twice a year. In addition, we aim to further improve the welfare of female employees by establishing facilities to protect maternity.



### Localization of Overseas Subsidiaries

Samsung SDI has seven overseas production subsidiaries based in China, Malaysia, Vietnam, Mexico and Hungary. Of the 142 departments, 87 are headed by locals, which accounts for 61 % of the total. Under the global HR policies to localize overseas subsidiaries and improve the capabilities of locals, we operate various systems to cultivate and empower them.

#### Major Localization Policies

- Restructuring with focus on locals: Appoint locals to the head of departments
- Promote excellent locals and give them greater authority to evaluate
- Implement a system to nurture local successors : Apply the performance in nurturing locals to MBO(Management By Objectives) for the head of a subsidiary or resident employees
- Dispatch locals to the headquarters : Dispatch at least for 3 months to 2 years

### Safety and Health

As our lives get more complicated with the development of industry and transportation, a variety of disasters and new diseases are threatening us. Companies are also facing a greater diversity of potential disasters and risks due to changing business structure and globalization. Against this backdrop, it is increasingly important for a company to operate a management system to effectively control and manage these risks. Samsung SDI is implementing a management system for employees' safety and health in compliance with OHSAS 18001, an international standard for occupational health and safety management. We also carry out systematic trainings every year in order to prevent industrial accidents and work-related diseases. In 2010, we set up a safety and health taskforce to establish a precautionary system and sought input from professionals to strengthen a culture of safety and health, create an on-line system, and prepare relevant standards. Samsung SDI's 2010 injury rate<sup>1</sup>(IR) was 0.36, loss day rate<sup>2</sup>(LDR) was 11.41.

1) Injury rate: total injuries / total hours worked x 200,000(based on GRI Guidelines)  
2) Loss day rate: total days lost/total hours worked x 200,000(based on GRI Guidelines)

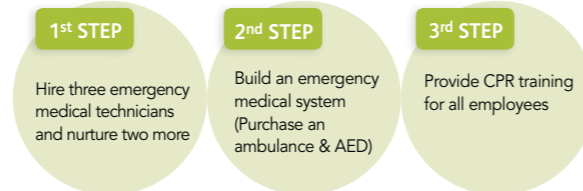
### TF Activities for a New SAFE Culture

Samsung SDI's environment and safety division carried out SAFE Culture Activities. Recognizing the increased risks posed by batteries and the need to heighten employees' awareness, the division established a precautionary system for accident prevention in 2010.

As main activities, it implemented the My-Area Management system, designated a staff in charge of environment safety at each production/development line, evaluated enterprise-wide rule compliance, and employed an outside institution to conduct a comprehensive diagnosis on environmental safety (electrical safety, flood risk). The TF team also set up a daily report system with overseas subsidiaries to more closely cooperate with locals in the environmental safety sector.

### Establishment of Emergency Medical System

Samsung SDI has built an emergency medical system for swift response to any urgent situation, thus making the company safer.



### A Comprehensive Diagnosis of Risk Management at Each Business Site



1. Education of CPR
2. Deploy 74 Units of AED
3. Purchase of Ambulance
4. Flood Risk Assessment

### Passion • Communication • Challenge

Building on efforts to create a corporate culture of "Communication" during 2010, Samsung SDI is working on the project to build a "So Good Company" in 2011.

To share the three core values of passion, communication,

and challenge, we established a taskforce for the new corporate culture and selected Culture Planners to communicate the core values to other employees.

The results of our efforts to create an improved corporate culture will be reported in next year's Sustainability Report.



More information is available on Samsung SDI corporate website's <Sustainability – Stakeholder Engagement – Employees> page. [http://www.samsungsdi.com/sustain/s2\\_4\\_1t.jsp](http://www.samsungsdi.com/sustain/s2_4_1t.jsp)



# 06 Communication with Shareholders and Investors

With a vision to realize common interest and to create values, Samsung SDI is promoting various IR activities such as an IR road show, conferences, one-on-one meetings, a line tour and performance result meetings based on active communication with shareholders and investors. Samsung SDI provides a financial info menu and VOC system online to enable real-time information exchange and communication.

## To Realize Common Interest

The year 2010 was a meaningful and fruitful year for Samsung SDI as an eco-friendly and clean energy solution company. Rechargeable batteries have been the driving force behind Samsung SDI's growth as it continues to set new sales and revenue records every quarter. Samsung SDI is gearing up to promote ESS and car batteries which have emerged as core businesses of the future. In a bid to enhance understanding of the business and to be attentive to all opinions, Samsung SDI has expanded meetings with local and foreign investors while holding sessions and seminars on ESS and EV batteries as well as theme meetings. Samsung SDI will continue to brief and share shareholder and investors' opinions gathered from IR activities with the management and incorporate them into management.

In 2011, Samsung SDI will continue our IR activities while strengthening IR activities for foreign investors and shareholders to promote the competitive edge of our EV batteries and ESS have in today's market. This communication will enable our shareholders and investors to have a better understanding of our operations, ensure credibility, and help fulfill the ultimate goal of realizing common interests.

## Shareholders' Meeting

The 41st shareholders' meeting was held in Seoul Education Center, Yangjae2-dong on March 18, 2011. 4 agendas were presented including performance results, appointment and remuneration of outside and inside directors which have all been passed by the shareholders' vote.

More information is available on Samsung SDI corporate website's <Company Info - Financial Info> page. [http://www.samsungsdi.com/ir/ir\\_2\\_1\\_1t\\_2010.jsp](http://www.samsungsdi.com/ir/ir_2_1_1t_2010.jsp)

## 2010 IR Activities

Month	Place	IR
January	Seoul	2009 Q4 earnings report
February	Seoul	IR at investment institutions
	Hong Kong/Singapore	In connection with Korea Investment & Securities conference
March	the United States	IR roadshow in the United States
	Seoul	Citi Securities conference the 40th shareholders' meeting
April	Seoul	2010 Q1 earnings report
	Seoul	IR at investment institutions
May	Seoul	Samsung Securities' global investors conference
	Europe	IR roadshow in Europe (in connection with UBS conference)
June	the United States	IR roadshow in the United States
	Hong Kong/Singapore	Nomura asia tech conference
July	Seoul	2010 Q2 earnings report
	Seoul	IR at investment institutions ESS technology training for analysts at securities' company
August	Seoul	ESS technology training for analysts at securities' company
	Europe	Mirae Assets' conference
September	Hong Kong/Singapore	Samsung Securities' conference
	Seoul	2010 Q3 earnings report
October	Seoul	IR at investment institutions
	Hong Kong	JP Morgan conference
November	Seoul	Mirae Assets' ESS seminar
	the United States	Nomura Securities' conference

## KRX Green Index & SRI Index

KRX announced Samsung SDI's incorporation in SRI Eco in October 2010. The index is comprised of 30 outstanding companies among a group of 328 mid and large listed companies in Korea and is expected to promote investment in eco-friendly companies. Moreover, Samsung SDI became part of the SRI Index, consisting of outstanding ESG(Environment, Social, Governance) companies in September 2009.

# 07 Creating Customer Value

Samsung SDI is engaged in activities to ensure product safety and quality, minimize customers' inconvenience through active and smooth communication, and maximize customers satisfaction. In 2011, we strengthened links between relevant fields such as quality, development, operation activities and overseas branches while generating customer value through customer-oriented service.

## Attentive to Customers

In 2010, Samsung SDI established a comprehensive VOC response system, expanding from the previous quality based response to include technology and supply, thus creating a more aggressive VOC response and communication. We have concentrated the VOC management process more clearly and efficiently, reducing the time for completing customers' needs from 30 to 22 days while maintaining a 24-hour initial response system. In February 2010, Collaborative Design Information System(CDIS) was launched and will be applied to various groups of customers in the near future. To enhance our response to customers' needs, we will seek fundamental improvement by expanding relevant TFT to address customers' requests and inconvenience in advance. In 2011, Samsung SDI will continue our efforts to maximize customer satisfaction through active communication with our customers, by expanding organic cooperation, and by engaging in key projects to promote the safety and credibility of our products.

## Better and Safer Product

Samsung SDI strives to assure the quality and safety of our products which were the pillars of customer satisfaction in 2010. We introduced our Manufacturing Execution System which automatically manages and runs the manufacturing process. This has enabled us to manufacture quality products through preemptive quality control and guarantee safety in all incidents such as customers' product misuse through enhancement of design. In 2011, Samsung SDI will hold meetings for all different customer groups on a weekly basis to review quality and product safety related issues in greater detail. Moreover, we will identify customers' needs to establish and execute response in all fields.

More information is available on Samsung SDI corporate website's <Sustainability - Stakeholder Engagement - Customers> page. [http://www.samsungsdi.com/sustain/s2\\_3\\_1t.jsp](http://www.samsungsdi.com/sustain/s2_3_1t.jsp)



# 08 Sustainable Partnership

Samsung SDI is engaged in activities to assist our suppliers in strengthening their global competitive edge and in establishing fair trade practices.

In 2010, led by a mutual cooperation organization, we promoted activities for mutual cooperation which took root in our first group of local and foreign suppliers. The basic idea is to provide training and assess quality and productivity enhancement, nurture experts to implement Low carbon green partnership and S-Partner accreditation system to expand green management and social responsibility throughout the supply chain.

## Low Carbon Green Partnership

Together with the Ministry of Knowledge Economy, Samsung SDI is carrying out a national project with a vision of building and spreading Low carbon green partnership. The aim is to help our suppliers enhance their response to climate change and reduce GHG.

41 suppliers have been selected to undergo programs for nurturing climate change experts, assist GHG and energy reduction, and implement SME-focused GHG management systems over the course of two years between December 2009 and November 2011. The programs will enable suppliers to build a platform for practical GHG reduction and a supply chain GHG management system.

## S-Partner Accreditation System

Revised and updated in 2009, the S-Partner accreditation system is an overall evaluation and approval system intended to spread social responsibility - including labor, ethics, environment, and safety - throughout the supply chain. Through this system, Samsung SDI aims to calculate risks related to social responsibility and seek improvements.

Under the program, suppliers, excluding branches and other partners whose contracts with Samsung SDI have expired, conduct a self-check up through check sheets and Samsung SDI follows up by conducting an on-site evaluation. Only suppliers that meet a certain level are given S-Partner accreditation. Suppliers with a low score or which have identified

major risks are advised to submit a plan to make improvement within 1 month and then undergo another evaluation in 3 months.

In 2010, a total of 75 suppliers received the accreditation, excluding some companies for reasons of contract termination. From 2011, overseas suppliers will be subject to the program as well.

We will begin training and on-site evaluation starting with suppliers of our China subsidiaries, which is to be accompanied with nurturing managers of our overseas subsidiaries to help continue our program.



Low Carbon Green Partnership Kick-off Workshop

### Performance in 2010 and Plan for 2011

	Performance in 2010	Plan for 2011
<b>S-Partner accredited company</b>	75 Korean companies	85 Korean and foreign companies
<b>Low carbon green partnership (participating company)</b>	37 Korean companies	41 Korean companies

## Promoting Mutual Growth

In 2011, under the slogan of mutual growth, Samsung SDI plans to conduct various programs to establish fair trade practices and to hone its suppliers' competitive edge.

First, to establish a platform for fair order among suppliers, Samsung SDI will endorse guidelines related to conclusion of agreements, selection and registration of suppliers, and operation of internal supervisory committees on suppliers. We seek to root out in advance any sources of concern by dealing with any injustice issues that need to be addressed considering company policies.

Samsung SDI will communicate difficulties and suggestions faced by suppliers through quarterly visits and on-line (pur-

chase portal) registration. We will also run a center for unfair trade to identify and work on ways to improve the purchasing and procurement process.

Moreover, we will assist facility investment and operational funding to help suppliers secure liquidity and financial soundness. We also plan to expand our program to second suppliers such as conducting research for joint technology development to help enhance technology competitiveness, introduce escrow on technology sources to prevent technology leakage as well as legal consultation. Our efforts for mutual growth and performances in 2011 will be briefed on the next year's Sustainability Report.



## Agreement on Fair Trade and Mutual Growth

250 personnel from Samsung SDI, Samsung Electronics, Samsung Mobile Display, Samsung Electro-mechanics, Samsung Corning Precision Material and Samsung SDS, representatives of the first and second groups of suppliers and government officials gathered at the ceremony to sign an agreement on fair trade and mutual growth between Samsung Group and suppliers at Samsung Town located at Seocho-dong on April 13, 2011.

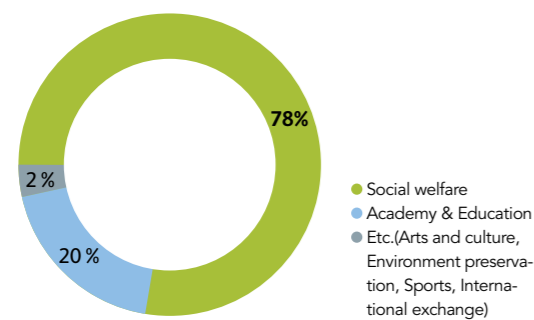
At the ceremony, 9 Samsung companies and the first suppliers reached 3,021 agreements and the first and second suppliers concluded 2,187 contracts, thus, a total of 5,208 agreements were signed to establish a foundation for mutual growth through out all suppliers. In addition, we take up various measures for continuous practices such as operation of offices in charge of Samsung companies, reflecting mutual growth performance on employee assessment of supplier contacting departments and provision of R&D expense for financial soundness of suppliers.

More information is available on Samsung SDI corporate website's <Sustainability - Stakeholder Engagement - Suppliers> page. [http://www.samsungsdi.com/sustain/s2\\_5.jsp](http://www.samsungsdi.com/sustain/s2_5.jsp)

# 09 Contribution to Local Community

Samsung SDI implements a range of social contribution projects to promote the growth and well-being of local communities. For example, one of our current campaigns provides free eye surgery to men and women who are visually challenged. Social contribution task forces which are organized at every business site carefully and systematically plan various activities and make continuous efforts to develop and improve them. A full 86% of all employees practice "sharing management" within their local communities by donating to the "Light of Love Fund," a matching grant fund in which the company matches voluntary employee monthly contributions at a rate of 1:1. Samsung SDI's 14,782 employees (accumulated total, domestic) participated in volunteer work in 2010, returning a total of KRW 1.94 billion, including KRW 540 million through the Light of Love fund, to the people of Korea. In case of the Light of Love fund, there is a slight decrease in the amount of donation compared with the previous year due to decrease in the number of employees in domestic sites, but the total number of accounts increased. Because of such efforts, Samsung SDI received top prizes in the areas of team volunteering, partner family volunteering, and individual volunteering at the 2010 Samsung Volunteering Awards. Samsung SDI will continue to engage in social contribution activities based on trust and communication in 2011. Additionally, it plans to develop and implement further social contribution projects which can be undertaken by an eco-friendly and clean energy solution company.

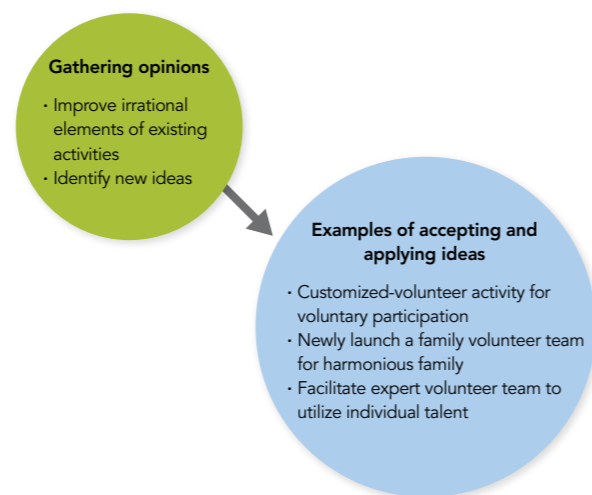
## Social Contribution Per Area



## Communication & Sharing

Samsung SDI makes efforts to give effective and practically helpful support to local communities through communication with inside and outside stakeholders. In August 2010, we organized "the outside advisory" comprised of 112 people including students, professors, government officers, the disabled, as well as farm or fishing villagers in the Giheung headquarters, the Cheonan and Ulsan plants. We conducted a survey and an interview to gather various opinions on the improvement of social contribution activities and to seek new ideas. In April 2011, we conducted a social contribution satisfaction survey with employees and suppliers. We surveyed 70 volunteer groups within local communities to learn what issues are important to them, to find out how they view the company's social contribution activities, and to listen to their various complaints and opinions. Based on the results of this survey, we intend to develop a detailed plan to address the needs and desires of local communities. In addition, we will continue to contribute to the development of local communities by implementing cooperation programs with them.

## Communication through Outside Advisory



## Social Contribution Satisfaction Survey



## Samsung SDI's Key 2010 Social Contribution Activities

### Representative Social Contribution Activity – Free Eye Treatment Project

Since 1995, Samsung SDI has been partnering with Siloam Eye Hospital to offer free eye care for our neighbors in need, which is Samsung SDI's representative contribution activity for 16 years. The mobile eye clinic and free eye treatment is available to those living in remote rural areas, leper communities and those who do not have the means or access to proper medical care in Korea and Yanbian China. In 2010, we provided 46 times of free treatment and a total of 8,827 people received surgery or other types of treatment. In 2011, we plan to share the bright light of hope with more people by expanding the project to our Vietnam subsidiary, which was established in 2010.

### Giheung

The Giheung headquarters supports youth, our future leaders, in a variety of ways. Samsung SDI's Central Research Center and Environmental Safety Center have been offering an after-school class since 2010 as well as a kids science class six times a year for students of the local children's center to help them raise their environmental awareness and develop a love and appreciation for science. Along with it, Samsung SDI has been implementing a 'Graduate Album of Love' activity in which employees take photos of students at school events and then produce and distribute an album to graduates of special schools in farming and fishing villages since 2004. We produced and gave graduation album to 44 graduates of Suwon Seogwang School in 2010. In addition, our employees get closer to our neighbors through various activities such as making Kimchi and painting mural, practicing value of sharing.

### Cheonan

The Cheonan plant has implemented the Moving Together activity in connection with the Korea National Red Cross and Cheonan Community Support Center since 2005. In 2010, 199 employees participated in the activity to improve the living environment of 21 households, including replacement of wall and floor paper, providing daily necessities as well as moving expenses. We plan to provide support to 48 households in 2011. Moreover, we shared warm neighborly love and precious experiences not only with employees but also with families by hosting a volunteering camp with employee families and children.

### Ulsan

The Ulsan plant implements a volunteering program for seniors (over 65) living in Ulsan. In connection with community public organizations, we make efforts to provide help to needy seniors through various activities including supporting seniors who live alone, environmental clean-up and facility inspection, picnics and parties. In 2010, 2,023 employees participated in 158 activities and in 2011 we will continue to develop social welfare programs to provide more substantial help to our neighbors in need.

### Malaysia

Our Malaysia subsidiary has carried out a Lenggeng Jungle Park Clean-up Activity since 1998 in order to maintain park facilities and clean up the environment. As the effort was recognized by the local government, Lenggeng Park was renamed Samsung Park in 1999. In 2010, 40 employees took the initiative in creating a clean and green park for residents by cleaning up the park and painting old park facilities. In addition to that, the subsidiary cleaned up the protection facilities for the disabled and as well as an orphanage and carried out landscaping. In 2011 we plan to carry out various social contribution programs for environmental preservation and to help the marginalized classes.

### China

China subsidiaries carry out the One Company-One Village activity to share with local communities. In 2010, the Shenzhen subsidiary carried out 34 volunteering activities by forging a sisterhood relationship with Sogawi village, and Tianjin subsidiary carried out 24 volunteering programs at the sister village, Hagakjang village. In addition, our Shanghai subsidiary provides scholarship to students from poor families. Samsung SDI practices sharing management not only at its domestic business sites but also at its overseas.





## Samsung SDI's Social Contribution Activity Based on Trust and Communication



- 1.2. Free Eye Treatment Project
3. Giheung \_ Making Kimchi
4. Shenzhen \_1 Company 1 Village
- 5.11.Ulsan \_ Twilight Charging Station
6. Giheung \_ Mural-Painting
7. Malaysia \_ Lenggeng Park Clean-up Activity
8. Cheonan \_ 'Moving Together' Activity
9. Cheonan \_ Volunteer Work with Children of Employees
10. Shenzhen \_ 1 Company 1 Mountain



# 10 Corporate Governance

Samsung SDI is committed to transparent corporate governance and responsible management practices to increase value for company stakeholders. We are dedicated to business decision-making which is aligned with the interests of our shareholders and which respects social responsibility through transparent and independent BOD operation.

### Board of Directors

Samsung SDI's Board of Directors is comprised of two inside directors and three outside directors. CEO holds the position of the Chairman of the BOD for responsible management. The independent directors are selected from experts recommended by the Nomination Committee. Candidates must have in-depth knowledge and experience in fields such as economics, business management, laws and other areas related to the company's technology. According to law, half of the committee members should be outside directors. Those with a special interest in the company including those who were employed by the company and Samsung companies in the past 2 years are not eligible to become outside directors. The newly appointed CEO, Sang Jin Park, was named a new member of the board and Sung Jae Kim was named a new outside director at the 41st shareholders' meeting held on March 18, 2011.

### Composition of Board of Directors

Title	Name	Title	Others	Gender
<b>Chairman</b>	Sang Jin Park	Samsung SDI President and CEO	Newly appointed	male
<b>Inside director</b>	Byeong Bok Jeon	Samsung SDI Head of Energy Business Division	No change	male
	Young Gil Bae	Professor of Law, Pukyong University	No change	male
<b>Outside directors</b>	Sung Jae Kim	Vice President of Hankuk University of Foreign Studies	Newly appointed	male
	Hee Kyung Kim	Professor of Finance and Insurance, Sangmyung University	No change	Female

### Committees under BOD

The Board of Directors operates three committees of Management, Audit and Nominations. In particular, the Management Committee which includes CEO and reviews and decides major business issues delegated by the BOD is directly responsible for the company's financial, environmental and social performance.

Committee	Purpose of Establishment and Authorities	Director
<b>Management committee</b>	Reviews and decides key business issues	2 inside directors (Sang Jin Park and Byung Bok Jeon)
<b>Audit committee</b>	Inspects business operations, accounting and directors' performance	3 outside directors (Young Gil Bae, Sung Jae Kim and Hee Kyung Kim)
<b>Nominations committee</b>	Recommends candidates for outside director	2 inside directors and 2 outside directors (Sang Jin Park, Byung Bok Jeon, Young Gil Bae and Sung Jae Kim)





## BOD and Executive Evaluation and Compensation

The director's pay ceiling is determined at the shareholders' meeting and each director receives compensation according to his/her performance within the approved limit. Top executives also undergo performance evaluations and receive compensation and benefits accordingly. The evaluation covers financial performance as well as safety, environmental, labor relations, corruption, and security related risks.

### Activities of BOD

5 BOD meetings were held to treat 19 agendas in 2010. The attendance rate was 97% (outside director 95%).

Date of meeting	Agenda	Approval	Attendance of outside directors
Jan.20	2009 financial statements and business report approval and 2 other agendas	Approved	4/4
Feb.10	Convocation of the 40 <sup>th</sup> annual meeting of shareholders and 4 other agendas	Approved	3/4
Mar.19	Appointment of CEO and 4 other agendas	Approved	4/4
Sep.29	Approval of compliance management guidelines and 2 other agendas	Approved	3/3
Dec.15	Approval of transaction limit with the biggest shareholders and 2 other agendas	Approved	3/3

\* An outside director resigned for personal reasons on June 23th, 2010

### Sustainability Management Reporting

Since 2009, sustainability management-related key issues and risks and countermeasures have been reported to the Board of Directors once a year. This is to minimize social accountability risks and seek new development opportunities by taking preemptive action from the BOD/top management level on key issues.

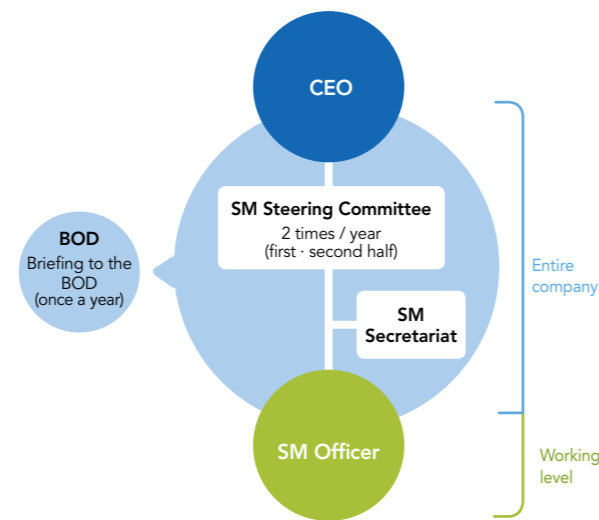
### 2010 Briefing : Feb. 10, 2010

Shift in sustainability management paradigm, major performances in 2009, 2010 major issues and responses (climate change, product environment regulations, standardization of CSR, etc.)

### Sustainability Management Promotion System

The Sustainability Management(SM) Steering Committee is the highest decision-making body on all matters related to sustainability. The committee convenes meetings twice a year in which all executive leaders attend. They share key sustainability related issues and performances and discuss and approve sustainability strategies and goals. Under the committee is the Sustainability Management Secretariat in charge of planning and coordinating sustainability related works.

### Sustainability Management Promotion System



# 11 Risk Management

It is becoming increasingly difficult for companies to determine risk as the number and nature of various risks become more and more complex.

Samsung SDI is strengthening its ability to swiftly regain business continuity in response to unwanted accidents by going beyond conventional methods of risk prevention and control.

### Major Risk Management System

Samsung SDI is equipped with a risk type-specific management system to effectively respond to complicated risks.

#### CRO(Chief Risk Officer)

For prevention and reduction of non-financial risks related to disasters and accidents, safety, health, environment and labor issues, Samsung SDI appoints a Chief Risk Officer(CRO). In addition, the company names an employee in charge of risk management per job function at all business sites. These employees are responsible for discovering and preventing non-financial risks.

#### Plant Operation Approval System

Samsung SDI has introduced the Plant Operation Approval System to manage potential risk factors that may arise when building new production lines and expanding lines or investing in new business opportunities. We carried out comprehensive inspections related to legal compliance, training and awareness levels, work standardization and hazardous substance management in the major areas of manufacturing, environmental safety, utility, quality and IT from investment approval to before-production stage.

#### Internal Control System

The internal control system has been in place to secure Samsung SDI's operational transparency. It includes the internal accounting control system aimed at strengthening the credibility of financial data and other control activities such as certification and evaluation to protect assets and prevent corruption. Through the internal control system, the company is meeting regulations calling for the CEO/CFO to assume responsibility on the reliability of financial information and disclosures.

### Business Continuity Management

Considering that the battery business requires thorough risk management, Samsung SDI began to build the Business Continuity Management System(BCMS) throughout its domestic and overseas battery operations in 2008.

BCM is a management system which is intended to minimize damage and shock in situations such as abrupt work stoppages by returning core business operations within a fixed target period and then bringing all other operations back to BAU(Business As Usual) status as quickly as possible.

Samsung SDI became the first Korean manufacturer to obtain BCM international certification (BS25999) for all segments of its battery business in July, 2009. In 2010, we established the business continuity system at our key overseas battery production sites such as the Tianjin and Shanghai subsidiaries. In the first half of 2011, we will establish a BCM system in the new battery production line at our Ulsan plant and will acquire certification for the system and in the latter half of the year we will implement risk evaluation about the new Vietnam subsidiary (established in 2010).

### Business Continuity Management Life Cycle



# Economic Performance

## Abstract of consolidated financial statement

(Unit : KRW million)

	2006	2007	2008	2009	2010
<b>Current assets</b>	2,385,708	2,282,637	2,409,201	2,783,288	2,451,455
Quick assets	1,807,103	1,786,699	1,989,403	2,415,740	1,967,402
Inventories	578,605	495,938	419,798	367,548	484,053
<b>Non-current assets</b>	4,502,917	4,832,055	4,244,103	4,364,447	5,482,112
Investment assets	945,135	1,646,479	1,935,185	2,374,058	3,456,594
Tangible assets	3,269,575	2,898,303	2,051,406	1,722,325	1,727,039
Intangible assets	86,351	94,119	45,337	69,629	78,890
Other non-current assets	201,856	193,154	212,175	198,434	219,589
<b>Total Assets</b>	<b>6,888,625</b>	<b>7,114,692</b>	<b>6,653,304</b>	<b>7,147,735</b>	<b>7,933,567</b>
Current liabilities	1,593,461	1,249,327	1,112,380	1,484,013	1,098,399
Non-current liabilities	498,845	1,118,164	846,700	531,775	604,307
<b>Total Liabilities</b>	<b>2,092,306</b>	<b>2,367,491</b>	<b>1,959,081</b>	<b>2,015,788</b>	<b>1,702,706</b>
Capital stock	240,681	240,681	240,681	240,681	240,681
Consolidated capital surplus	1,289,528	1,287,595	1,235,188	1,246,780	1,255,831
Consolidated capital adjustment	(219,046)	(208,329)	(203,766)	(191,395)	(169,965)
Other comprehensive income	109,620	661,727	391,971	619,389	1,333,567
Consolidated retained earnings	3,264,312	2,645,768	2,850,726	3,057,295	3,391,052
Minority interests	111,224	119,759	179,423	159,196	179,695
<b>Total Stockholders' Equity</b>	<b>4,796,319</b>	<b>4,747,201</b>	<b>4,694,223</b>	<b>5,131,947</b>	<b>6,230,862</b>
Revenue	4,634,005	3,932,473	5,302,802	4,951,855	5,124,275
Operating income	15,657	(538,248)	133,030	190,417	234,224
Income(Loss) from continuing operations	24,047	(556,763)	159,877	0	0
Income(Loss) from discontinuing operation	78,032	(46,388)	(102,566)	0	0
Net Income(Loss)	102,079	(603,151)	57,312	241,349	385,112
Net income of controlling company	89,345	(592,183)	38,874	217,658	356,103

\* The consolidated financial statements for the year ended December 31, 2010 comprise the Controlling Company and its subsidiaries (the 'Consolidated Company') and the Consolidated Company's interest in associates and jointly controlled entities. The Consolidated Company has determined to apply Korean International Financial Reporting Standards ('K-IFRSs') from the financial year beginning on January 1, 2010. The consolidated financial statements for the year ended December 31, 2010 are the Consolidated Company's first consolidated financial statements prepared in accordance with K-IFRSs and K-IFRS 1101. First-time adoption of IFRS has been applied.

## Economic indicators

	2006	2007	2008	2009	2010
<b>Current ratio</b> (Unit : %)	149.72	182.71	216.58	187.55	223.18
<b>Liability ratio</b> (Unit : %)	43.62	49.87	41.73	39.28	27.33
<b>Government support</b> (Unit : KRW billion)	64	27	82	40	64
<b>Local sourcing ratio</b> (Unit : %)	65.5	62.2	61.2	58.6	46.9

\* Previously erroneous data for the Government support for 2008~2009 are hereby corrected.

# Social Performance

	2006	2007	2008	2009	2010
<b>Employment</b> (Unit : people)	<b>28,168</b>	<b>25,229</b>	<b>15,121</b>	<b>12,159</b>	<b>12,662</b>
Region					
Korea	11,449	10,618	6,718	6,467	6,384
Asia	13,554	12,502	6,115	4,341	5,093
Europe	1,188	663	565	616	535
America	1,977	1,446	1,723	735	650
Type					
Regular	27,509	24,385	14,145	11,024	11,439
Contractual	175	178	146	251	245
Outsourced	484	666	830	884	978
<b>Turnover</b> (Unit : %)	<b>26.8</b>	<b>34.4</b>	<b>32.4</b>	<b>34.6</b>	<b>21</b>
Region					
Korea	7.8	12.1	15.3	2.9	3.1
Asia	33.6	49.3	41.3	69.1	50.5
Europe	81.8	88.4	50.5	35.2	36.7
America	56.7	50.6	64.8	139.9	35.6
Gender					
Female	33.3	49.1	50.0	71.4	34.9
Male	21.6	23.7	25.1	22.4	13.8
Age					
Under 30	30.9	44.2	41.3	54.3	30.8
30~50	17.3	17.4	22.0	19.2	9.3
Above 50	121.4	45.4	55.0	12.2	13
<b>Per capita hours trained</b> (Unit : H, Korea only)	<b>185</b>	<b>110</b>	<b>107.5</b>	<b>102</b>	<b>107</b>
Position					
Executives	25	8	5.7	23	40
Managers	232	151	121.7	118	117
Employees	173	99	103.9	96	58
<b>Injury rate</b> (Unit : total injury count/total hours worked X 200,000)	<b>0.35</b>	<b>0.18</b>	<b>0.27</b>	<b>0.22</b>	<b>0.36</b>
Region					
Korea	0.08	0.05	0.03	0.03	0.03
Asia	0.48	0.25	0.15	0.17	0.61
Europe	0.42	0.46	0.68	0.63	0.00
America	1.26	0.55	1.66	1.38	2.26
<b>Loss day rate</b> (Unit : number to Loss days/total hours worked X 200,000)	<b>33.91</b>	<b>7.84</b>	<b>7.01</b>	<b>8.85</b>	<b>11.41</b>
Region					
Korea	5.99	4.20	2.56	2.98	4.08
Asia	83.38	6.36	4.67	4.15	10.61
Europe	17.77	19.69	14.57	27.56	0.00
America	11.08	30.92	33.24	55.47	97.09
<b>Matching grant value</b> (Unit : KRW million)	<b>946</b>	<b>564</b>	<b>574</b>	<b>555</b>	<b>538</b>
Employees	473	423	374	278	269
Company	473	141	200	278	269
<b>Cumulative numbers of free eyesight recovery operation beneficiaries</b> (Unit : people) *Korea and the Yanbian area in China only	<b>122,942</b>	<b>133,115</b>	<b>144,259</b>	<b>156,103</b>	<b>164,930</b>

\* From this report, the accumulated number of patients getting free eye surgery and treatment includes Korea and the Yanbian area in China. Therefore, the previous performances were applied with the new standards and re-briefed.

# Environmental Performance

	Indicator	Scope	Unit	2006	2007	2008	2009	2010	
Input	Energy	Global	TJ	9,371	8,301	7,214	5,941	5,948	
		Korea	KRW 100million/TJ	4.89	4.70	7.18	8.16	8.49	
	Water	Global	kiloton	16,148	12,805	10,757	8,152	8,375	
		Korea	KRW 100million/kiloton	2.84	3.05	4.82	5.95	6.03	
	Hazardous chemicals	Global	ton	47,452	33,041	33,001	28,223	28,941	
		Korea	KRW 100million/ton	0.96	1.18	1.57	1.72	1.75	
	Output	Greenhouse gases	Global	tco <sub>2</sub> e	1,111,318	1,074,088	978,735	751,527	770,502
			Korea	KRW 100million/tco <sub>2</sub> e	0.041	0.036	0.053	0.065	0.066
Air pollution		NOx (Korea)	KRW 100million/kg	16.87	8.12	7.64	4.46	7.93	
		SOx (Korea)	KRW 100million/kg	425.47	N/A	N/A	N/A	N/A	
		Dust (Korea)	KRW 100million/kg	2.41	3.17	2.96	3.30	3.00	
Ozone depleting substances		Global	kgCFC11eq	1,205	1,013	915	1,047	1,367	
		Korea	KRW 100million/kgCFC11eq	38	39	57	46	37	
Wastewater		Global	kiloton	11,807	9,282	8,077	6,559	7,340	
	Korea	KRW 100million/kiloton	3.88	4.20	6.41	7.39	6.88		
Water pollution	BOD (Korea)	KRW 100million/kg	0.34	0.15	0.12	0.15	0.17		
	COD (Korea)	KRW 100million/kg	0.26	0.18	0.12	0.17	0.22		
	SS (Korea)	KRW 100million/kg	0.38	0.26	0.24	0.25	0.35		
Waste		Global	ton	129,548	112,276	84,714	58,911	55,321	
		Korea	KRW 100million/ton	0.35	0.35	0.61	0.82	0.91	
	Recycling rate	Global	ton	57,582	57,166	36,825	32,911	35,686	
		Global	%	88.4	89.0	89.4	90.7	91.8	
		Korea	%	91.9	90.8	89.3	92.9	96.6	
		Korea	%	11.6	11.0	10.6	9.3	8.2	
Landfill rate	Global	%	8.1	9.2	10.7	7.1	3.4		
	Korea	%							

**\* Notes Related to Environmental Performance Data**

- Domestic GHS from 2007 to 2010 was recalculated based on the 'Basic Act on Low Carbon Green Growth'.
- Air and water pollutant output does present the domestic volume as a annual calculation is difficult to measure due to differing pollution level items and legal measurement periods at some overseas subsidiaries.
- Volume of waste water is the volume of water used in the process and excludes waste water (domestic waste water).
- The list of hazardous chemical substances was developed based on the 24 substances intensively managed by Samsung SDI.

# Independent Assurance Statement

**Scope and objectives**

Samsung SDI commissioned Two Tomorrows (Asia) Limited to undertake independent assurance of its 2010 Sustainability Report.

The assurance process was conducted in accordance with the AA1000AS (2008). We were engaged to provide Type 2 assurance, which covers

- evaluation of adherence to the AA1000APS (2008) principles of inclusivity, materiality and responsiveness (the Principles) and
- the reliability of specified sustainability performance information.

Key data and claims in the Report were included in the scope of the assurance with the exception of:

- Financial information;
- Greenhouse gas data as it is covered by a separate accompanying statement; and
- Information presented on the Samsung SDI website, but not in the Report.

Where data was prepared using the GRI Indicator protocols these were used as additional criteria.

**Responsibilities of the directors of Samsung SDI and of the assurance providers**

The directors of Samsung SDI have sole responsibility for the preparation of the Report. In performing our assurance work, our responsibility is to the management of Samsung SDI, however our statement represents our independent opinion and is intended to inform all of Samsung SDI stakeholders.

We were not involved in the preparation of any part of the Report. We have no other contract with Samsung SDI and this is the fifth year that we have provided assurance. We adopt a balanced approach towards all Samsung SDI stakeholders.

Our team comprised MinGu Jun, project leader, InMog Yang and JoongJae Kim and this assurance statement was prepared by the team in English, and reviewed and signed off by Jason Perks, CEO, Two Tomorrows (Asia) Limited. Further information, including individual competencies relating to the team can be found at: [www.twotomorrow.com](http://www.twotomorrow.com)

**Basis of our opinion**

Our work was designed to gather evidence with the objective of providing moderate assurance as defined in the AA1000AS (2008). We undertook the following activities:

- Reviewed the information and communication technology (ICT) industry's material sustainability issues as identified by the assurance team, and material issues identified by Samsung SDI to determine assurance priorities;
- Interviewed senior managers responsible for management of sustainability issues including two executive vice presidents in charge of the Battery Business Unit and the Corporate R&D center and the HR vice president. Selected and reviewed evidence to support discussed issues. The interviewees were arranged by Samsung SDI and agreed by the assurance team;
- Review of information provided to us by Samsung SDI on its reporting and management processes, relating to the Principles;
- Visits to Giheung headquarters and Cheonan manufacturing site to review processes and systems for preparing site level sustainability data and implementation of the sustainability strategy. We were free to choose sites within Korea;
- Review of supporting evidence for key claims in the report;
- An independent assessment of Samsung SDI Reporting against the Ap-

plication Level for the Global Reporting Initiative (GRI) G3 Guidelines. The focus of the assessment was on changed, omitted or new information. We relied on our assessment from last year for repeated information.

**Findings**

We reviewed and provided feedback on drafts of the Report and, where necessary, changes were made. On the basis of the work undertaken, nothing came to our attention to suggest that the Report does not properly describe Samsung SDI's adherence to the Principles or its sustainability performance.

Nothing came to our attention to suggest that the consolidated data presented within the report and associated claims are not fairly stated.

We have confirmed that the GRI indicators referenced in the GRI index pages are reported either partially or fully. In our opinion the reports meets the criteria within the GRI G3 guidelines to an application level of B+.

**Observations**

Without affecting our assurance opinion we also provide the following observations.

This year's report provides Samsung SDI's view on the expanding markets for smart grids and electronic vehicles, driven by sustainability challenges such as climate change and energy access. These trends emphasize the growing need for high performance batteries, solar cells and fuel cells. Samsung SDI demonstrates its commitment to sustainability by developing its strategic direction towards maximizing such business opportunities. This commitment is reinforced by its response to relevant operational safety risks and the company's announcement of its new vision of 'Smart Solution for a Green world'.

The World Premium Materials (WPM) project is good example of a sustainability initiative that drives Samsung SDI's core product innovation based on comprehensive stakeholder involvement and competency development, including SMEs, government, academia and research institutions.

We recommend that Samsung SDI expand on its current good response to product responsibility across its portfolio. This could be achieved through enhancing the current discussion on product recycling and take-back, conflict mineral supply chain traceability and scarce metal replacement efforts, and going beyond regulatory requirements covering the recently emerging issue of e-waste in developing countries.

Samsung SDI can strengthen its global sustainability management approach through initiatives such as the WPM project that engage its various stakeholders, including governments, suppliers and customers, and by communicating relevant targets and performance progress through the sustainability report.

**Inclusivity concerns the participation of stakeholders in developing and achieving an accountable and strategic response to sustainability.**

- We noted Samsung SDI's efforts to identify global customers' social and environmental issues and reflect them in R&D and marketing activities. We recommend that this excellent enhancement to inclusivity and responsiveness is expanded upon in future reports as it is a key driver for core competency development.
- The expansion of manufacturing sites in China and Vietnam increases the need for proactive identification and response to local social and environmental risks in non-Korean operations. We recommend that Samsung SDI establishes robust communication processes for local stakeholders, including host governments, local communities and suppliers, to identify these local risks.
- The Sustainability Management (SM) communication council has enhanced understanding of stakeholder needs by improving internal communications between functional units and the SM office. There is an op-

# Independent Assurance Statement

portunity for Samsung SDI to cement this success by formalising the SM communication council and convening it more often. We also recommend further capability development of the council members to enable a more balanced and systematic approach to stakeholder engagement.

- Samsung SDI has established a sustainability governance structure focussed on the SM steering committee, which includes the CEO and management team, and reports regularly to the board of directors. Sustainability governance would be further enhanced if Samsung SDI appointed a director or a committee under the board of directors to manage the key sustainability issues. This could also benefit from a regular stakeholder panel to enable direct engagement with external stakeholders at the top level decision making body.
- We recommend that Samsung SDI reports on the relevance of current key stakeholder groups to its business, and on the understanding of its activities, products and services' impact on those stakeholders.

**Material issues are those which are necessary for stakeholders to make informed judgments concerning Samsung SDI and its impacts.**

- It is highly commendable that the materiality assessment process, reflecting previous assurance recommendations, defines sustainability challenges more clearly, and also reports on the relative priority of issues, including those in the 'not material' area. Further developments would be for Samsung SDI to report on the criteria for deciding materiality thresholds and for the materiality process to take direct input and reflection of external stakeholders.
- It is also commendable that Samsung SDI's materiality process has reflected stakeholder information collected by functional units through the SM communication council, which was another key recommendation of past assurance. In future, if the key non-financial risks to the global business, identified through the corporate risk management system, is integrated into the materiality assessment, this could ensure more proactive use of the results of the materiality assessment in the business management decision making process.
- As the disclosure on the relative priority of the issues is being improved, the foundation for reporting on the changes and identifying new and emerging issues from the previous year is now established. We recommend reporting in these trends in future to stakeholders.

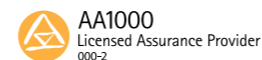
**Responsiveness concerns the extent to which an organisation responds to stakeholder issues**

- As Samsung SDI's business nature is changing rapidly from the display industry to the chemically-focussed industry of manufacturing rechargeable batteries, a proactive response to related risks is required. We found that various activities, including enhancing company-wide governance for the operational risk management and expanding the activities to the overseas sites are appropriate responses. Further efforts should be made in terms of the response to the safety risks at the product usage stage.
- We recommend that Samsung SDI reflects the GHG scope 3 inventory covering suppliers and product usage in its climate change strategy.
- Practical understanding of the efforts and performance improvement in managing energy usage, GHG and pollutants emission is important. We recommend that Samsung SDI analyses and report on its management performance in a manner that reflects the fluctuations in these areas due to factors such as changes in revenue and production, and major operations and products.
- As there is a plan for expanding S-partner schemes to overseas suppliers in 2011, we recommend that Samsung SDI focuses on the suppliers operating in high risk areas through identification of the social and environmental risks of global suppliers.

## Performance Information

- It is recommended that Samsung SDI changes its reporting approaches to enable continuous and reliable disclosure of performance against mid- and long-term targets for key material issues identified in the materiality process. We also recommend that Samsung SDI manages data continuously by allocating SM communication council members to oversee performance management of key material issues. Additionally, we recommend Samsung SDI introduces an internal audit process and system for data reliability management.

**Two Tomorrows (Asia) Limited**  
Seoul, Korea  
19<sup>th</sup> May 2011



Jason Perks Project Director

MinGu Jun Project Leader

InMog Yang Lead Associate

JoongJae Kim Associate

\* Two Tomorrows (Asia) Limited trading as Two Tomorrows, is an international consultancy that helps companies to perform better and create value by doing business in a sustainable way. [www.twotomorrow.com](http://www.twotomorrow.com)

# GHG Verification Opinion

**Samsung SDI., Ltd. Shenzhen plant, Tianjin plant, Shanghai plant, Malaysia plant, Hungary plant, Mexico plant and Vietnam plant**

## Scope:

The annual GHG emissions for 2010 calendar year inclusive.

The physical scope is within the boundary of the 7 sites mentioned above.

GHG emissions for Scope 1(Direct-emissions from the plant) and Scope 2 (Indirect-energy related) as defined in WBCSD/WRI GHG protocol Chapter 4 'Setting Operational Boundaries'

## Data Verified:

The Green House Gas Emissions for the 2010 calendar year as follows:

Scopes	Sites	Shenzhen	Tianjin	Shanghai	Malaysia	Hungary	Mexico	Vietnam	Sub Total
<b>Direct Emissions (Scope1)</b>	Stationary	5,593	3,411	104	5,857	1,682	841	19	17,505
	Transport	148	243	125	344	1,164	25	42	2,091
	Process	27	-	615	468	1,425	0	-	2,535
	Fugitive	-	-	390	4,824	-	28	-	5,242
<b>Indirect Emissions (Scope2)</b>	Electricity	77,618	37,787	21,091	62,461	6,782	5,423	486	211,648
<b>Total (tCO2e/yr)</b>		83,385	41,440	22,324	73,955	11,053	6,317	547	239,021

## GHG Criteria & Protocols used for Verification:

The verification was carried out at the request of the Hankook Tire Co., Ltd. using:

- The GHG Protocol of the WBCSD/WRI - Revised March 2004
- IPCC Guideline for National Greenhouse Gas Inventories - Revised 2006
- ISO14064 Part 1 & 3 - Issued 2006
- BSI GHGEV Manual - Issued 15. September 2009

As the principal reference documents.

BSI Group Systems standard confidentiality arrangements were in force for all of the activities that were part of the verification.

## Verification Opinion:

As a result of carrying out verification in accordance with the protocols and the best practice mentioned above and the principles of ISO/IEC 17021:2006, it is the opinion of BSI that:

- No material misstatement in the calculations was revealed, good record keeping was demonstrated and
- Data quality was considered acceptable in meeting the key international principles for greenhouse gas emissions verification.

**J. K. Cheon / BSI Group Korea President**  
21<sup>st</sup> May 2011



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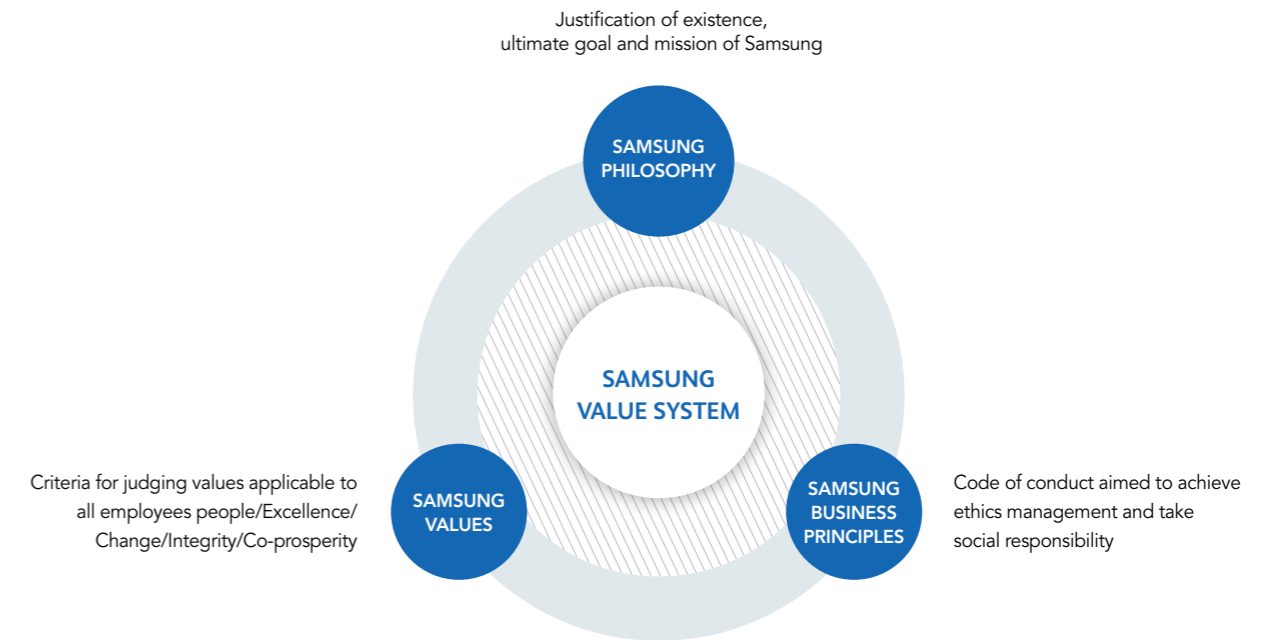
\* According to the enforcement of the Low Carbon Green Growth Basic Act, the 2010 assurance report (statement) on domestic GHG output was electronically submitted to the national system.

# GRI Content Index

Categories	Number	Page	Categories	Number	Page	Categories	Number	Page
<b>1. Strategy and Analysis</b>								
	1.1	6,7		4.14	10,12,13	<b>Compliance</b>	EN28	30
	1.2	8,9,14,15,49	<b>Stakeholder Engagement</b>	4.15	10~13	<b>Overall</b>	EN30	30
				4.16	10~13	<b>Labor</b>		
<b>2. Organizational Profile</b>				4.17	10~13, 34-46	<b>Disclosure on Management Approach</b>		35~37
	2.1	4	<b>5. Management Approach and Performance Indicators</b>				LA1	36,51
	2.2	4	<b>Economic</b>			<b>Employment</b>	LA2	36,51
	2.3	4	<b>Disclosure on Management Approach</b>	14~16,18~25			LA3	H
	2.4	4		EC1	44,50	<b>Labor / Management Relations</b>	LA4	36
	2.5	4	<b>Economic Performance</b>	EC2	8,28		LA5	36
	2.6	4		EC3	H	<b>Occupational Health and Safety</b>	LA6	H
	2.7	4		EC4	50		LA7	38,51
	2.8	4	<b>Market Presence</b>	EC6	50		LA8	38,45,46
	2.9	4		EC7	38	<b>Training and Education</b>	LA10	51
	2.10	61, H	<b>Indirect Economic Impacts</b>	EC8	44,45,51		LA11	36,H
<b>3. Report Parameters</b>			<b>Environmental</b>				LA12	H
	3.1	2	<b>Disclosure on Management Approach</b>	26~28, 29~31		<b>Diversity and Equal Opportunity</b>	LA13	37,38,51
<b>Report Profile</b>	3.2	2	<b>Materials</b>	EN1	26		LA14	37
	3.3	2		EN2	26	<b>Human Rights</b>		
	3.4	2		EN3	26,28	<b>Disclosure on Management Approach</b>		38
	3.5	2,12,13		EN4	26,28	<b>Investment and Procurement Practices</b>	HR1	36,42
	3.6	2	<b>Energy</b>	EN5	28		HR2	42
<b>Report Scope and Boundary</b>	3.7	2		EN6	20,21,24,25	<b>Non-discrimination</b>	HR3	33
	3.8	2		EN7	-	<b>Freedom of Association and Collective Bargaining</b>	HR4	36,37
	3.9	2	<b>Water</b>	EN8	29		HR5	36
	3.10	50~52		EN9	H	<b>Child Labor</b>	HR6	36
	3.11	4		EN10	H	<b>Forced and Compulsory Labor</b>	HR7	36
<b>GRI Content Index</b>	3.12	56		EN11	H	<b>Society</b>		
<b>Assurance</b>	3.13	53~55		EN12	H	<b>Disclosure on Management Approach</b>		57,58
<b>4. Governance, Commitments, and Engagement</b>			<b>Biodiversity</b>	EN13	-	<b>Community</b>	SO1	49
	4.1	47,48		EN14	30		SO2	32,33
	4.2	47		EN15	-	<b>Corruption</b>	SO3	32,33
	4.3	47		EN16	28,52		SO4	33
	4.4	36,48		EN17	-	<b>Public Policy</b>	SO5	11
<b>Governance</b>	4.5	47,48		EN18	28	<b>Anti-competitive Behavior</b>	SO7	32,33
	4.6	H		EN19	52	<b>Compliance</b>	SO8	33
	4.7	47,48	<b>Emissions, Effluents, and Waste</b>	EN20	52	<b>Product Responsibility</b>		
	4.8	9,57,58		EN21	52	<b>Disclosure on Management Approach</b>		24,41
	4.9	47,48		EN22	29,52	<b>Customer Health and Safety</b>	PR1	24,41
	4.10	47,48		EN23	29,30		PR3	H
<b>Commitments to External Initiative</b>	4.11	26,31,49		EN24	-	<b>Product and Service Labeling</b>	PR4	H
	4.12	8,H		EN25	H		PR5	41
	4.13	11,42	<b>Products and Services</b>	EN26	14~25	<b>Marketing Communications</b>	PR6	32,H
				EN27	26	<b>Compliance</b>	PR9	33

\*H : If relevant data are disclosed only at the corporate website \* - : Assessments were not undertaken due to lack of relevance during the reporting period

# Samsung Value System



**Samsung Philosophy** : We will devote our human resources and technology to create superior products and services thereby contributing to a better global society

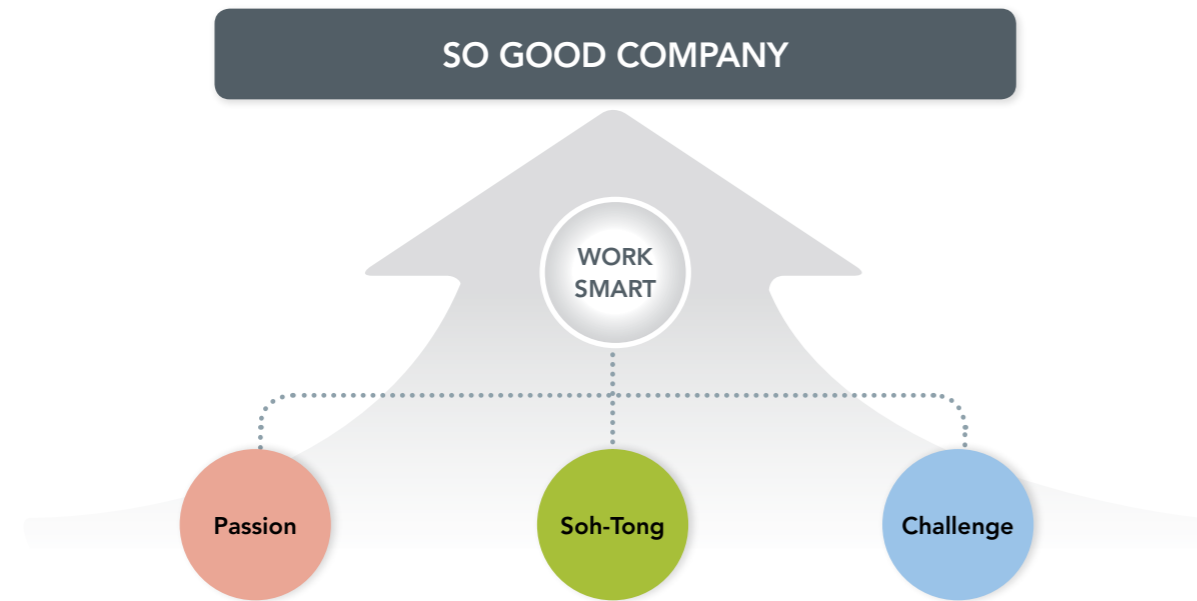
**Samsung Values** :

People Excellence Change Integrity Co-prosperity

**Samsung Business Principles** :

- Principle 1. We comply with and ethical standards
- Principle 2. We maintain a clean organizational culture
- Principle 3. We respect customers, shareholders and employees
- Principle 4. We care for the environment, health and safety
- Principle 5. We are a society responsible corporate citizen

# Samsung SDI's New Corporate Culture



## Corporate Culture Slogan

**So Good Company** : A respected company where employees are proud to be a member of, is beneficial to shareholders, clients, partners and is contributing to the nation and the human society

## Core value of corporate culture

- Passion** : Holding one's own work in high esteem, contribute to human society by striving to be the best in the field.
- Soh-Tong** : Working together for the common goal, rooted in mutual understanding, trust, and care for one another. Collaborative communication.
- Challenge** : Be driven by curiosity and venture into the unknown. Accomplish goals by overcoming any difficulties without fear of failure.

# Listening to You

FAX : (+)82-31-8006-3399

We would like to incorporate your valuable feedback to improve our future Sustainability Report. Your views and suggestions collected through this survey will be reflected in our business activities and future Sustainability Reports. We will inform you of the results through next year's Sustainability Report and our Sustainability website.

### Which of the following applies to you?

- Samsung SDI     Customer     Institutional investor(□social responsibility investment)     Individual investor     Supplier  
 Government     Civic group     Industry association(enterprise, industry association, etc.)     Research center     Local resident  
 Academia     Others :

### What is the reason for your interest in Samsung SDI's Sustainability Report?

- To obtain investment information     To evaluate Samsung SDI     To prepare Sustainability (CSR) Report  
 For the purpose of research and education     To obtain specific information (Type: )

### What were your major areas of interest? (Please write in detail)

1.     2.     3.

### How would you rate the Sustainability Report?

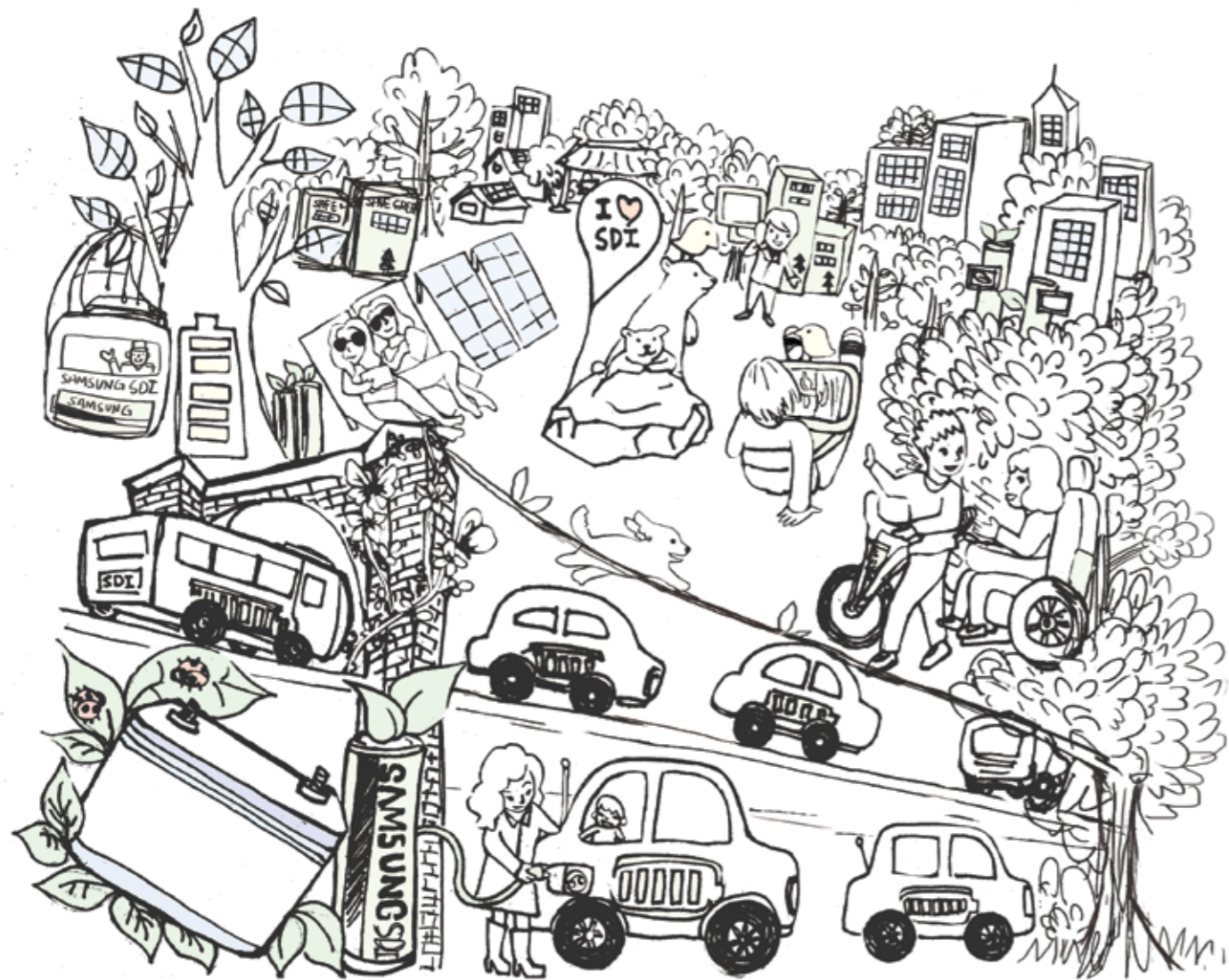
- Easy to understand    very low                   very high  
 Easy to find desired information    very low                   very high  
 Contains sufficient information    very low                   very high  
 Design and layout are helpful in understanding the content    very low                   very high

### Which sustainability issues would you like to see more in future report? (Multiple answers possible)

Category	Issue
<b>Economy</b>	<input type="checkbox"/> Innovation activity <input type="checkbox"/> Social environmental change through product and service innovation
<b>Environment</b>	<input type="checkbox"/> Resource use and reduction <input type="checkbox"/> Management of hazardous substance in product <input type="checkbox"/> Climate Change response <input type="checkbox"/> Eco-friendly product design & entire process consideration <input type="checkbox"/> Environmental preservation initiative and restoration <input type="checkbox"/> Development of eco-friendly energy conservation technology <input type="checkbox"/> Rear metal use <input type="checkbox"/> Environmental law compliance
<b>Labor, Human Rights</b>	<input type="checkbox"/> Employment (recruiting & transferring) <input type="checkbox"/> Labor management relations <input type="checkbox"/> Employee health & safety <input type="checkbox"/> Human resource development <input type="checkbox"/> Welfare benefit, evaluation/compensation <input type="checkbox"/> Balance of work and life <input type="checkbox"/> Respecting diversity and preventing discrimination <input type="checkbox"/> Communication with employees
<b>Transparency Ethics</b>	<input type="checkbox"/> Anti-corruption-related system <input type="checkbox"/> Protection of whistle-blower <input type="checkbox"/> Information disclosure <input type="checkbox"/> Fair competition <input type="checkbox"/> Protection of intellectual/material property rights <input type="checkbox"/> Transparency ethic-related law compliance
<b>Product Liability</b>	<input type="checkbox"/> Customer, consumer health & safety <input type="checkbox"/> Product service labeling <input type="checkbox"/> Marketing communication <input type="checkbox"/> Customer satisfaction <input type="checkbox"/> Customer education & raising awareness
<b>Local Community</b>	<input type="checkbox"/> Public policy response and participation <input type="checkbox"/> Social contribution <input type="checkbox"/> Local residents health <input type="checkbox"/> Evaluation and management of impact on local community <input type="checkbox"/> Public infrastructure investment & service
<b>Supply Chain Management</b>	<input type="checkbox"/> Win-win management <input type="checkbox"/> Supply chain CSR(Corporate Social Responsibility) <input type="checkbox"/> Green Purchase

### Please feel free to state any comments or suggestions regarding Samsung SDI's sustainability activities and this report.

# Smart Solution for a Green World



## Contact Information

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	Sustainability	<a href="http://www.samsungsdi.com/sustain/s1_8.jsp">http://www.samsungsdi.com/sustain/s1_8.jsp</a>	
	Ethical Management	<a href="http://www.samsungsdi.co.kr/ethics/eng/main.jsp">http://www.samsungsdi.co.kr/ethics/eng/main.jsp</a>	

### Listening to You (Sustainability Report Survey)



We welcome your feedback. Please take part in the online survey or fill out the feedback questionnaire on the printed version of the Sustainability Report.  
[http://www.samsungsdi.com/sustain/s4\\_4.jsp](http://www.samsungsdi.com/sustain/s4_4.jsp)

### Voice of Customer (VOC system)



You can submit your views and suggestions through the 'Voice of Customer(VOC)' page on our corporate website.  
[http://www.samsungsdi.com/e\\_voc\\_write.sdi](http://www.samsungsdi.com/e_voc_write.sdi)

### Included in the DJSI for seven consecutive years- the first in Korea

Dow Jones Sustainability Indexes (DJSI) are the first global indexes tracking the financial performance of the leading sustainability-driven companies worldwide. Based on cooperation between Dow Jones (US-based leading global index provider) and SAM (Swiss-based sustainability assessment and investment firm, Sustainable Asset Management), they provide asset managers with reliable and objective benchmarks to manage sustainability portfolios. In the 2010 sustainability assessment of 2,500 companies worldwide, Samsung SDI was included in the DJSI for the seventh year in a row, the first for a Korean firm. In addition, by being selected as the leader in the electronic equipment sector for the fifth time, Samsung SDI was once again recognized as a leading sustainability-driven company.



### GRI Application Level

In our opinion, Samsung SDI's 2010 Sustainability Report meets the criteria within the GRI G3 guidelines to an application level of B+. This has been checked by Two Tomorrows (Asia) Limited.