





SUSTAINABILITY REPORT 2009 'SDI CREATIVE STORY'

# **About Sustainability Report**

#### Seventh Sustainability Report

This is the seventh annual Sustainability Report published by Samsung SDI. The previous Report was released in June 2009.

#### The reporting period is from January 1 to December 31, 2009.

This Report contains updated information to reflect changes that occurred up through April 30, 2010.

#### All global production subsidiaries, sales subsidiaries and offices, research centers, and joint ventures.

This Report covers the entire global operations of Samsung SDI.

#### Energy and display products

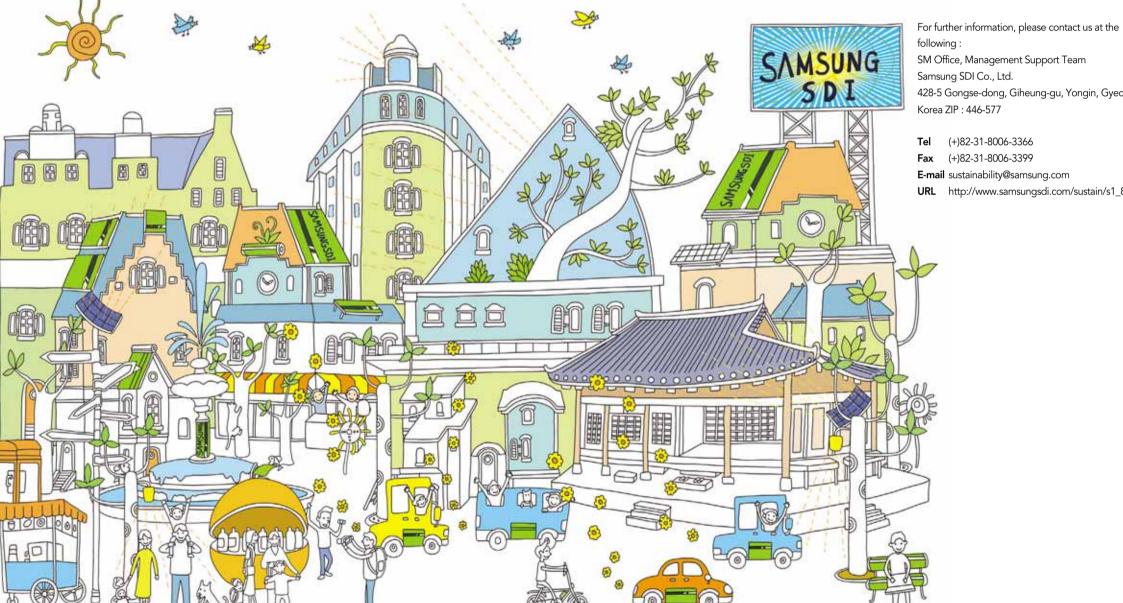
The contents extend to rechargeable battery, PDP, CRT, VFD, automotive battery and products under development at Samsung SDI research center.

#### 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.



SUSTAINABILITY REPORT 2009 'SDI CREATIVE STORY'

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SUSTAINABILITY REPORT 2009 'SDI CREATIVE STORY'

## Samsung SDI

Samsung SDI is a global corporation offering energy and display products.

Our worldwide network spans nine production plants, one R&D center, two sales subsidiaries, and numerous branches and offices in 12 countries. Our headquarters was relocated to our current location in Giheung in June 2009 and all the related legal procedures were completed as of March 19, 2010.

Samsung SDI is comprised of the Energy Business Division, PDP(Plasma Display Panel) Business Division and CRT(Cathode Ray Tube) Business Division. Our research center is currently carrying out research on next-generation energy and display technology.

In 2009, we expanded our battery production line in Cheonan, Korea, to strengthen our battery business and our notebook PC pack line in Shanghai, China, as part of our business reform. We extended our overseas network by establishing the Vietnam subsidiary in January 2010 and plan to launch production of mobile phone battery packs from July. In connection with the restructuring of our CRT business, we discontinued CRT production in Mexico, Brazil and China(Tianjin) in 2009.

SB LiMotive, a joint venture set up with Bosch, acquired the US automotive battery maker Cobasys in July 2009. The acquisition will serve to expand our sales, technology and service capabilities.

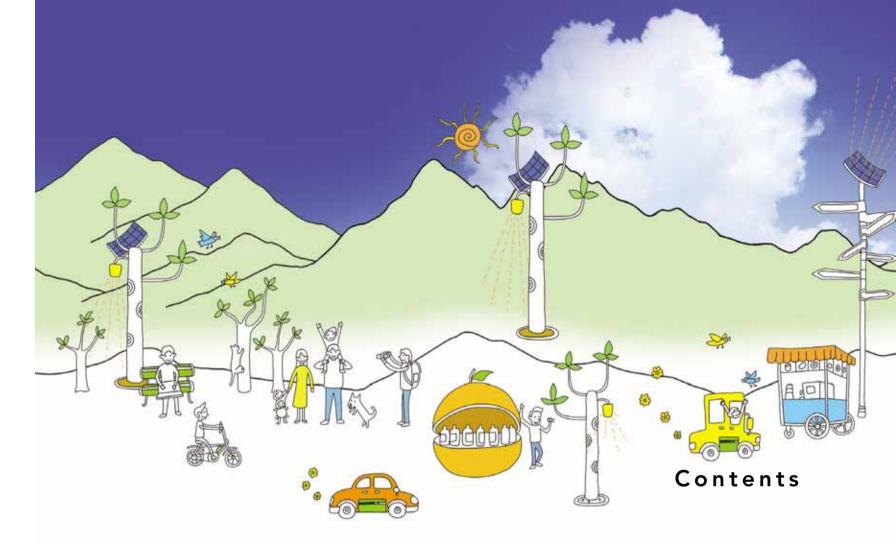
## **Global Sites**

- Headquarters Giheung
- Production subsidiaries Cheonan, Ulsan, Shenzhen, Tianjin, Shanghai, Malaysia, Mexico, Hungary, Vietnam(scheduled launch: July 2010)
- Research center Giheung
- Sales subsidiaries Los Angeles, Hong Kong

\*Other branches and offices are excluded

SUSTAINABILITY REPORT 2009 'SDI CREATIVE STORY'





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07



Company



# Energy Company Tomorrow

At Samsung SDI, our future road lies in building a company that contributes to humanity and the plan et through energy and display.

# Dear global stakeholders of Samsung SDI,

Samsung SDI continued with efforts to create a sustainable future with our stake-holders in 2009. As always, your support and engagement played an important role.

Harnessing our strengths in the display business and our edge in rechargeable batteries, we have begun the transformation into an environment friendly and clean energy company for our next leap forward.

The world is witnessing a shift in the energy paradigm away from fossil fuels which have prevailed over the past century. With climate change being recognized as a serious threat, the stage is being set for an era of the "green economy" in which the spotlight will be on ecofriendly industries. At the same time, the business community is facing greater demands from society in terms of corporate social responsibility.

Samsung SDI has been preparing for the changing times with a forward-looking approach. Building on our competitive edge in rechargeable batteries, we will expand our reach to batteries for automobiles and power storage. In addition, we will minimize the environmental impact of our business operations to create environmental value and fulfill our social responsibility with the goal of realizing sustainable growth.

Samsung SDI is also reinventing itself as a "Good Company." This requires cooperation with employees, shareholders and investors, customers, and suppliers based on fair processes to pursue mutual benefits and rewards. Samsung SDI will reinforce communication with stakeholders and the public to seek ways to achieve balanced growth.

On behalf of everyone at Samsung SDI, I ask for your constant support and encouragement for our drive to build a sustainable future.

President & CEO Chi Hun Choi

Ch. L. Ch



Paradiam shift In recent years, climate change and related topics have captured the world's attention. The environment, which is at the center of climate change discussions, is not an issue that just affects factories which emit pollutants. Rather, it has surfaced as a global issue that concerns all nations and all regions. Moreover, there is growing interest in problems related to hazardous substances contained in products or used during manufacturing, and these problems are another matter that transcends national borders. Another offshoot of globalization is the expansion of multinational corporations and cultural diversity which have led

Recently, the world has been exposed to the threat of numerous crises. Concerns loom over a financial crisis, environmental crisis and energy crisis. However, Samsung SDI sees these threats as opportunities. They represent opportunities to make mutual advances and produce more convenient and ecofriendly products. This hope for the future embodies sustainability and vision pursued by Samsung SDI. This report communicates the seventh edition of Samsung SDI's sus-

> to new social developments and conflicting interests among different stakeholders.

> These changes have significant implications for companies, given their role in the flow of goods and products. The business community is also facing greater demands from diverse stakeholders concerning corporate social responsibility. At first, these developments were seen as a fleeting trend. Due to that attitude, numerous companies faded away into history. Now, many recognize that a new era has opened and are striving to find new opportunity amid the change.

> Against this backdrop, the International Organization for Standardization(ISO) is expected to publish the ISO 26000, an international standard providing guidelines for social responsibility (SR), in October 2010. The ISO 26000 will cover

**Economy** Sustainable Growth **Harmony** & Growth Society **Environment** Win-Win **Eco-value Partnership** Creation

various information related to SR including the identification of relevant stakeholders and issues, concept, and implementation. Although its use will be voluntary, the ISO 26000 is meaningful in that it is the first international agreement on SR.

## Sustainability

What does sustainability mean for an organization? Back in 2003, Samsung SDI was the first company in Korea to publish a sustainability report and launched sustainability management. At the time, sustainability and sustainability management were novel concepts, so the most important task was to come up with a clear definition. Samsung SDI defines sustainability and sustainability management as follow:

Sustainability refers to maintaining a balanced

partnership based on trust for mutual benefits with diverse stakeholders; generating economic, environmental and social performance throughout all stages related to products and services; and providing greater value to the stakeholders of the organization. Sustainability management is the method for achieving sustainability. It encompasses a good understanding of the organization, vision and strategy, related activities and evaluations. According to ISO/DIS 26000, "a socially responsible organization is one that accepts responsibility for addressing the impacts of its decisions and activities through transparent and ethical behavior." Ultimately, there is no significant difference between an organization's social responsibility and sustainability, with only minor variations in terms of the viewpoint.

#### The way we walked

Based on its approach to sustainability, Samsung SDI pursues harmonious growth. In addition to economic growth, we give due consideration to the environmental and social aspects and try to discover new opportunities. We are striving to establish a sustainable governance structure and created an organizational unit dedicated to sustainability management. The company's direction on sustainability is determined based on review by the Sustainability Management Committee chaired by the CEO and briefings on sustainability matters to the board of directors. Under the basic direction, we set a mid/long-term objective under the name of "SDI 2.0." We are taking various action to reach the objective such as the development of new business models and ecofriendly products, ecofriendly supply chain management, social contribution activities, and energy conser-

#### Our special future

Samsung SDI is constantly thinking about what to do and what must be done for a sustainable future. We believe these thoughts and corresponding efforts will steer the world towards a sustainable direction. Our vision is to deliver ecofriendly energy sources and electronic/electric devices that minimize resource consumption and maximize recycling to seamlessly support the future mobile environment and alleviate climate change. Our products, both those currently available and those to be launched in the future, will play a key role in tackling climate change. We believe their level of performance will influence the pace and ability of society's drive towards sustainability. We realize the importance of communication and concerted efforts with our stakeholders, and will do our best to shape a sustainable world.

More information is available on Samsung SDI corporate website's <Sustainability-Value & System.> page. http://www.samsungsdi.com/sustain/s1\_8.jsp

# Stakeholder **Engagement**

#### Building a good company

As a corporate citizen, Samsung SDI has evolved with its stakeholders and their participation. We are making every effort to shape Samsung SDI into a "Good Company" that works together with its stakeholders through fair processes and delivers benefits and enjoyment to all members of society. Our stakeholders both provide and receive a wide range of economic, social and environmental values. They also influence and are influenced by our business activities.

Our major stakeholders include customers, employees, shareholders and investors, suppliers, government, industrial/academic organizations and NGOs, and local communities. We identified the major stakeholder groups based on our annual review of stakeholder engagement and internal discussion. Our plans for 2010 include the efficient operation of diverse stakeholder channels and enhancing processes to manage sustainability issues in a systematic manner. We also plan to set up an internal consultative body for stakeholder engagement comprising related individuals. Our intent is to incorporate diverse stakeholder opinions in our business activities to promote sustainability.

#### Communication

The road to building a "Good Company" begins with stakeholder communication. Samsung SDI pursues constant communication with stakeholders through diverse channels. Along with a VOC system on the company website that is accessible to all persons at any time and any place, we maintain channels tailored to the needs of each stakeholder group. For sustainability issues, we receive stakeholders' views via the phone(+82-31-8006-3366), email(sustainability@samsung.com) and feedback survey(Listening to You) on the sustainability homepage. Stakeholders are encouraged to submit queries and take part in our surveys.

## Standardization Government projects National policy projects • Joint programs Business infrastructure Cooperation Industrial Academic Organizations Cooperation & NGOs Profit Member activities • Joint programs • Responding to surveys and assessments • Conference participation **Suppliers** MegaSTEP S-Partner • SSP member system • Partner collaboration & enhancement TF

- Customer visits
- QBR meeting
- Customer satisfaction survey
- Customer agent
- Collaborative Design Information

& services

Productivity

Customers

- Open counseling center
- Labor council
- Employee satisfaction survey
- Meeting with the CEO
- Business briefing
- Profit Products

**SAMSUNG** 

Parts/ raw materials

Job creation & social contribution

Local Communities

Remuneration

Capital investment

Human/physical

business sites

resources & land for

Investment return

- Conference participation

• Earnings conference

• General shareholders' meeting

• Investment info homepage

Factory tour

• IR roadshow

Disclosures

Shareholders

Investors

- Year-round meetings
- Community forum
- Social contribution activities

**Employees** 

#### • Sisterhood ties

### Support for public policy

Samsung SDI cooperates with industrial and academic organizations on technology projects and HR development to promote industrial advances and contributes to rational public policy-making. The objective of these pursuits is to minimize the environmental impact of products, manufacturing and services and to protect consumers' safety. We are also an active participant in national policy projects. 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 New & Renewable Energy Association, Korea Electronics Technology Institute, and Korea Green Foundation. Although not a direct member, we also participate in activities to support various initiatives such as standardization and support for SMEs.

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



# Preparing the Sustainability Report

# Process for selecting material issue material issues. Stage 1. **IDENTIFYING** Material issues were identified through media Stage 2. research, VOC system, and surveys via the company website. The "Samsung SDI sustainability issue **PRIORITIZING** pool" was created based on sustainability initiatives and assessment issues. Then, a stakeholder survey Materiality test was conducted was prepared. Totally 450 persons took part in the to quantify the level of materiality and prioritize the identified issues. Using a materiality matrix, we assessed the level of importance considering stakeholders' areas of interest, material issues of competing COMPANY GROWTH firms, social norms, externally disclosed business strategy, and issues that have a direct short-term financial impact.

#### Good sustainability report

Samsung SDI has published seven editions of its Sustainability Report since the first report was released in 2003. Our notion of a "Good Sustainability Report" is a credible report that is easy to read. The Sustainability Report is a major channel through which Samsung SDI delivers information on activities and performance related to sustainability and receives stakeholder feedback. The Report is prepared taking into consideration stakeholders' areas of interest and sustainability pursued by Samsung SDI.

#### Selecting material issues

We have continuously enhanced the process of determining material issues to incorporate the interests of diverse stakeholders and to ensure accurate and effective reporting. In 2009, we set up the "Samsung SDI sustainability issue pool" based on sustainability initiatives and assessment issues. We also upgraded the materiality test to prioritize issues based on quantitative measures of materiality. The revisions were intended to provide greater credibility and more in-depth coverage of the

#### Stage 3. **REVIEWING**

The material issues were finalized following internal review and approval by the senior management. Samsung SDI's Sustainability Reports are verified by a third party assurance provider. Details on third party assurance are available in the assurance report on pages 57 and 58.





**Employees** 



Investment Issue

#### Stakeholders' areas of interes

Product R&D	Issue 2	Product R&D	Issu
Labor-management culture	Issue 6	Ecofriendly product design and LCA	Issu
Customer satisfaction activities	Issue 8	(Life Cycle Assessment)	
Supplier support and management	Issue 9	Risk management	Issu
- · · · · · · · · · · · · · · · · · · ·		HP dayalanment	leeu.

Resource usage and conservation | Issue 3 HR development Issue 6

ISSUE 07 Shareholder-oriented

ISSUE 08 Customer satisfaction

safety [45]

ISSUE 09 Supplier support and

**ISSUE 10** Social contribution

activities [45]

management [44]

Customer health and

management [46~47]

activities [48~49]

ISSUE 11 Corporate governance [50~51]

ISSUE 12 Risk management [52~53]

\*Numbers in brackets refer to the relevant pages.

Shareholder-oriented activities | Issue 7 Customer health and safety Issue 8



#### Sustainability reporting

Issues were classified as being material, relevant, or not material depending on their level of importance. The 2009 Sustainability Report focuses on the material issues and partially covers the relevant issues. Information on issues included in the printed report and other relevant issues are provided through the sustainability homepage. Issues deemed to be not material are excluded from the reporting scope.

Ecofriendly product design

and LCA(Life Cycle Assessment)

ISSUE 01 Investment [18]

ISSUE 02 Product R&D[22~29]

[22~29]

ISSUE 03 Environmental management

Resource usage and

address climate change [34~37]

conservation [32~33]

system [30~32]

ISSUE 04 Strategy and activities to

ISSUE 05 Transparency and ethics [39]

ISSUE 06 Labor-management culture [40~41]

HR development[42~43]

Suppliers Product R&D Issue 2

Supplier support and management | Issue 9 Risk management | Issue 12 Environmental management system | Issue 3



#### Government

Ecofriendly product design and LCA | Issue 2 (Life Cycle Assessment) Employee health and safety Issue 6 Customer health and safety Issue 8 Social contribution activities Issue 10



#### Industrial/Academic Organizations

Strategy and activities to address | Issue 4 climate change Information disclosure Our approach Customer satisfaction activities | Issue 8 Transparency and ethics Issue 5



NGOs

## Relevant

Material

#### Not material

Materiality matrix

Corporate governance Issue 11 Transparency and ethics | Issue 5 Customer health and safety | Issue 8 Compliance with Issue 3 environmental law



More information is available on Samsung SDI corporate website's <Sustainability-Performance & Reporting> page. http://www.samsungsdi.com/sustain/s4\_1.jsp

Green Economy Story New **Paradigm** The term "green" no longer refers only to environmental factors. "Green" indicates "harmony". It refers to efforts to create a prosperous society and healthy planet. Green 2010 Shift in Business Structure Challenge 2009



2009 2010

Battery

#### Advent of the green economy

The global population has shown explosive growth since the mid-1900s and resources are being depleted at a rapid pace. The world faces numerous challenges, which include overcoming poverty and achieving a balance between economic development and environmental protection. To address these challenges and promote sustainable growth, the global community needs to curb resource consumption via green technology and enhance quality of life and productivity through the efficient use of energy.

The energy sector is undergoing a paradigm shift as fossil fuels, which powered economic advances over the past century, give way to ecofriendly alternatives. In other words, the world is seeing the advent of the so-called "green economy."

# Transition to environment friendly and clean energy company

Samsung SDI unveiled its vision of becoming an environment friendly and clean energy company in May 2009, which marked the company's 39th anniversary. We revealed our future business scope and our commitment to meeting social responsibility and pursuing sustainable growth. The year 2010 will be an important turning point in our transformation into an environment friendly and clean energy company. In 2009, we commanded the second highest share(21%) of the global rechargeable battery market. We ranked second in PDP (market share of 32%) and first in CRT(31%).

We aim to expand our market share in rechargeable batteries in 2010 based on our edge in product quality and technology. We expect rechargeable batteries to account for 50% of our total annual sales, as opposed to 41% in 2009. We will concentrate our efforts on small-sized rechargeable batteries, high-capacity storage applications, solar cells and fuel cells to deliver ecofriendly energy products as a global environment friendly and clean energy company.

Source : Samsung SDI Marketing Team

2009 2010

PDP

#### Work Smart based on system innovation

Samsung SDI's global

market share in 2009 and

outlook for 2010

In 2009, Samsung SDI launched an initiative for efficient integration of individual systems for systems implemented in Korea. As part of the efforts, we launched the GSCM(Global Supply Chain Management) system for batteries in January 2010. Under this system, resource operation plans are drawn up in advance to meet production schedules and enable timely delivery of products

2009 2010

**CRT** 

to the customer on the requested date. The result is efficient use of human and physical resources and minimal opportunity loss through innovative change in how we conduct our work(Work Smart).

In 2010, our focus will be on building a global system spanning our overseas operations. We will work on reducing the lead time in the supply chain and producing more scientific demand forecasts.



Samsung SDI GSCM

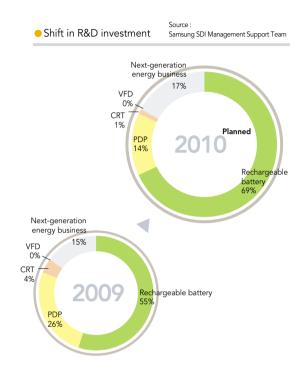
System-based decision-making and execution

Right Process

Right Decision

Speed Competitiveness

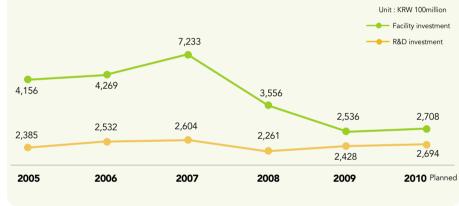
## Investing in the future



• Shift in facility investment Source:
Samsung SDI Management Support Team

In line with the shift in the business portfolio towards energy, Samsung SDI boosted investment in the rechargeable battery and next-generation energy business in 2009. R&D and facility investment during the year totaled KRW 496.4billion. In 2010, we will pursue strategic investments to grow into an environment friendly and clean energy company. We will develop future growth engines by increasing outlays on R&D into rechargeable battery and next-generation energy products, facility expansion for rechargeable battery, production lines for battery materials, and ESS(Energy Storage System). We also plan to invest in infrastructure, which includes the adoption of global ERP (Enterprise Resource Planning). At the same time, we will continue to pursue communication with stakeholders to carve out a future as a sustainable company.

#### R&D and facility investment



## Intellectual assets - Patents

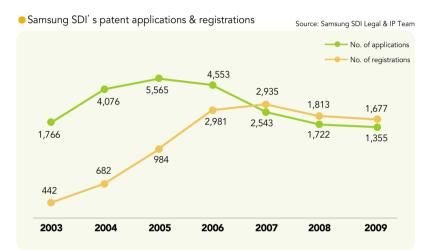
Approx. 36,000

patent application



tered about 18,000 patents. In 2009, we reinforced our patent activities related to energy technology, including rechargeable batteries for various applications, fuel cells and solar cells, in line with our position as an energy company. We will maintain our focus on energy in 2010 with more thorough verification of new inventions to build a portfolio of global patents for competitive and commercially viable technologies. To secure an edge in the overseas markets, we will implement patent strategies according to region and work together with local patent experts to boost patent applications and strengthen our ability to deal with patent disputes.

As of 2009, Samsung SDI had filed roughly 36,000 patent applications around the world and regis-



## Global leader in rechargeable battery patents

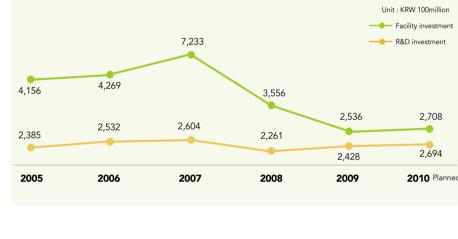
In September 2009, Samsung SDI ranked 1st in the world in the rechargeable battery category and 4th in the world in overall green energy in the Green Energy Technology Index (GETI)<sup>1)</sup> survey. The GETI was jointly developed by ED Research, a patent consulting firm, and the Korean publication, Electronic Times. Samsung SDI outpaced competitors based on the number and quality of US patents acquired concerning rechargeable batteries. Patents with ratings of "A+". "A" and "A-" accounted for 39% of the total patents held. Samsung SDI has also made notable strides in fuel cells and solar cells. Going forward, we plan to pursue a wider range of R&D initiatives related to green energy.



Based on US patent registrations in 2004	~2008

	SDI	Rival "A"	Rival "B"	Rival "C"
Rank	1st	2nd	3rd	4th
GETI score	23.6	17.7	16.6	15.3
Overall No. of patents	147	131	122	122
A+, A, A- No. of patents(%)	58 (39%)	31 (24%)	29 (24%)	25 (20%)

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).



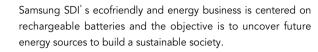
**Global ERP** 







# **Energy Tomorrow**



















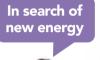
























Samsung SDI is evolving to keep pace with the shifting energy paradigm. Our expertise in rechargeable batteries has led to the development of next-generation energy products which shed a positive light on the future of the energy industry.





# **Display Tomorrow**

In step with changing trends in the display market, Samsung SDI is boosting the supply of PDP and slim CRT products.











# **Driving Tomorrow**

Samsung SDI is developing high-capacity batteries for ecofriendly vehicles through SB LiMotive.

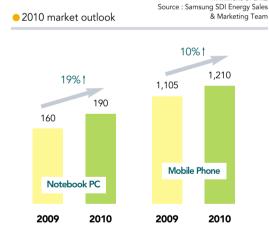




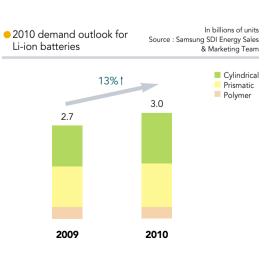


## **Energy Tomorrow**





In millions of units



22

#### New growth engine - rechargeable battery

Growth of the PC industry and the information revolution at the end of the 20th century sparked a semiconductor boom. In the same way, the development of small IT devices and the accompanying change in lifestyles has powered growth of rechargeable batteries. As their application expands from small IT gadgets to electric vehicles, renewable energy and smart grids, rechargeable batteries should enjoy new demand as an energy storage system. Amid this sea change which can be called the energy revolution, we are convinced that rechargeable batteries and energy storage will emerge as a key industry in the 21st century.

#### Transition to energy company

Samsung SDI commenced research into rechargeable batteries in 1990 and began preparations for commercializing lithium-ion batteries in 1996. Mass production began in July 2000 with one production line each for cylindrical and prismatic batteries. Presently, we are implementing a diversification strategy to expand from mobile devices, mainly the mobile phone and notebook PC, to power tools. The safety and quality of our rechargeable batteries is widely acknowledged by customers and industry peers. In 2009, Samsung SDI ranked second in the world with a market share of 21%, narrowing the gap with the market leader by 3%. In addition to high quality batteries, we will broaden our reach to energy systems and provide total solutions.

The battery market is forecast to expand by 13% in 2010 driven by cylindrical batteries for notebook PCs and power tools. We intend to capitalize on our strengths in production technology and product quality to bolster our market presence.

#### Production of world's first high-capacity 3.0Ah battery

In July 2009, Samsung SDI launched mass production of the world's first 3,000mAh(3.0Ah) battery with charging voltage of 4.35V. Primarily used in notebook PCs, the product's capacity is 7% higher than the 2,800mAh battery. It also boasts a 10% increase in run time and the world's highest energy density of 678Wh/L. Development of our large-area polymer batteries, used mainly in notebook PCs, was completed in 2008 and production began in 2009. We expect this product to show rapid sales growth in 2010.



E-Bike featuring Samsung SDI's Li-ion battery

#### Rechargeable battery for E-Bike

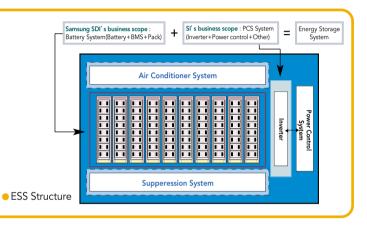
Lithium-ion batteries are appropriate for E-Bike, given their high energy density and light weight. Samsung SDI developed a Li-ion battery cell for the E-Bike in 2009, along with a high quality and safe battery pack. A new concept E-Bike running on Samsung SDI's rechargeable battery will be available on the market in 2010.

#### **Energy storage system(ESS)**

Samsung SDI has been participating in a pilot project for energy storage system(ESS) since 2009. ESS is at the heart of the smart grid. Harnessing technology accumulated via our experience in Li-ion batteries for IT and small mobile applications, we will strive to build a strong presence in new markets such as ESS.

#### ESS-urban storage solution

ESS is a system that supplies power when and where it is needed by harnessing technology for storing electricity in a power grid. ESS enhances power quality and energy efficiency. Unlike rechargeable batteries which are in the form of a single product, ESS comes in a large container that combines a battery system(battery + BMS + pack) with the inverter and power control of a system integrator(SI). Developments such as diffusion of electric vehicles would lead to significant growth of the ESS market. Korea has been carrying out a project to build a smart grid test bed in Jejudo from 2009. Samsung SDI is supporting R&D for this project as an ESS supplier in the areas of energy for home use, renewable energy and storage facilities.



#### **Ecofriendly products**

Ecofriendly products should not contain hazardous substances such as the six substances prohibited under the EU RoHS Directive as well as PVC and brominated flame retardants(BFR). Consideration should be given to the environment throughout a product's lifecycle, which includes minimizing resource use and energy consumption during the product use. Samsung SDI takes rigorous steps to abide by related laws and meet customer demands. To comply with the EU REACH Regulation, we identified whether an article contains substances of very high concern(SVHC) and their concentration levels through our Sustainability management initiative system(SMIS) and informed customers of the details in 2009. We plan to examine the hazards posed by substances that are currently not regulated and take steps to address those risks in order to meet customers' expectations. These include substances like PVC, BFR, bromine(Br), and chlorine(Cl) compounds. Separately, lithium-ion batteries enable smaller and lighter devices by reducing the number of batteries required. This is because the Li-ion battery is 20~50% lighter

while voltage is three times higher compared to the nickel-cadmium(Ni-Cd) batteries and nickel metal hydride(Ni-MH) batteries having the same capacity. In addition to, Li-ion batteries are ecofriendly during the usage phase due to their larger capacity and longer running time and the discarding phase by minimizing the release of hazardous substances.

#### Stable sourcing and replacement of rare metals

Curbing the use of natural resources which are in limited supply, especially rare metals, and developing substitutes is essential for corporate competitiveness. In addition to stable sourcing, Samsung SDI makes various efforts to conserve such resources and find substitutes. For instance, we made facility investments for rechargeable battery materials to replace cobalt(material for anode) with non-cobalt material. We are steadily increasing the use of non-cobalt material in our products.





Lithium-ion battery for electricity distribution

Surplus electricity from a solar generator is stored in the storage battery and distributed when power is not generated. It is smaller and more ecofriendly compared to a lead storage battery having the same capacity

#### In search of next-generation energy

Samsung SDI is conducting R&D into solar cells and fuel cells to achieve its vision of an environment friendly and clean energy company and to explore future energy sources for a sustainable world. We are also making steady efforts to commercialize high-capacity storage devices, dye-sensitized solar cells, and fuel cell system for distributed power generation.

In 2009, Samsung SDI launched the ESD (energy storage device) Commercialization Team. Our goal is to lead the market by introducing the ESD as the first step towards promoting the high-capacity storage device business. This business shows vast potential for growth. Related technology will allow subways and elevators in high-rise buildings to serve as small power generators with the use of high-capacity batteries boasting high power output.

#### High-capacity storage device

In the future, all energy generated and consumed as well as the amount of carbon dioxide emitted will be measured in real-time and energy generation will be controlled based on a smart grid. For instance, if a residential unit that usually relies on solar and wind power needs another source of power due to unfavorable weather conditions, it can turn to surplus energy stored in a device such as a lithium ion battery situated on the premises. An intelligent system keeps track of data on energy generation, storage and consumption to enable efficient power generation and respond to demand as needed. Samsung SDI plans to produce and supply lithium ion batteries as an essential energy storage device for the smart grid.

Smart Grid

#### Windows that produce energy using sunlight

Solar Cell

The principle of power generation of the dye sensitized solar cell (DSSC) is similar to photosynthesis of plants. A next-generation solar cell that is distinguished from cells made with crystalline and noncrystalline silicon, DSSC are transparent solar cells that can be fabricated in a variety of colors depending on the dye. Samsung SDI is developing transparent, large-area modules and power generation modules with long life spans for application in building integrated photovoltaic (BIPV) systems. Presently, our cell and module boast world class efficiency levels. Our R&D emphasis is on creating large-area modules and ensuring reliability. We plan to conduct testing of DSSC for BIPV to complete the development process and subsequently pursue commercialization.



 DSSC(30 modules measuring 37x40cm²) installed in the master bedroom window of the ecofriendly "Green Tomorrow" home built by Samsung Corp. Developed by Samsung SDI, the waffle-shaped windows feature the world's largest area dye-sensitized solar cells using photosensitive dyes. Transparent windows can be realized depending on the color of the dye. Unlike conventional thin film solar cells, these cells allow residents to enjoy the outside view. Moreover, electricity can be generated even on a cloudy day or with the use of artificial lighting.

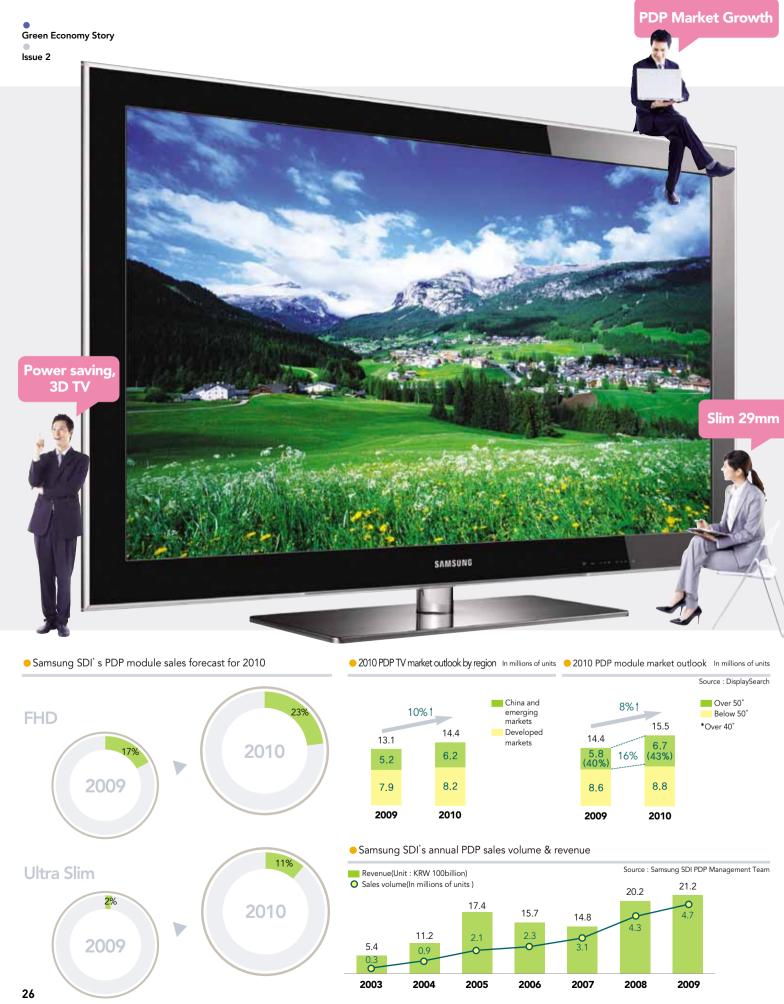
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#### 25kW SOFC stack for decentralized generation

Samsung SDI is a participant in a new and renewable energy project to develop a 100kW SOFC(Solid Oxide Fuel Cell) generation system overseen by the Ministry of Knowledge Economy. In 2009, the first year of the project, we secured basic design and production technology for the SOFC stack as well as development infrastructure. During the year, we developed a 1kW SOFC stack. We plan to build on our achievement with the 1kW stack to boost efficiency and durability and develop a 25kW stack by 2011.



• 1kW SOFC Stack



## **Display Tomorrow**

#### **Resetting PDP**

The PDP Business Division newly launched the U series in 2009 and generated quarterly profits in the fourth quarter. Profitability improved led by expansion of the lucrative 50-inch and larger full HD market and the development of and growing sales contribution from new products such as ultra slim PDP.

According to the market research firm DisplaySearch, the PDP TV market is forecast to grow by 10% and the module market by 8% in 2010. In particular, robust sales growth is foreseen for emerging markets including China, 50-inch and larger full HD and ultra slim PDP, and the budding 3D PDP TV market.

Samsung SDI is aiming to generate annual profits by pursuing the "RESET 2010" strategy. The RESET strategy encompasses product technology (Renovation and Efficiency), halving resource input (Slim & Compact), marketing(Value Up), and timely

supply(Enhanced Value & Time to Market). Based on the market environment and the company's product strategy, Samsung SDI will expand PDP supply and expend efforts to renew the focus on PDP TV in the global market.

#### **Green PDP**

Reducing power consumption of TVs has been a key consideration for Samsung SDI when developing new models. In 2009, power consumption was lowered by about 50% compared to the prior year's models. We will take steps to pursue further reductions in 2010 to satisfy the EU's Energy using Product(EuP) Directive and the US Energy Star

#### Launch of PDP 850

The ultra thin PDP 850 TV featuring Samsung SDI's PDP module was unveiled in May 2009. The TV is just 29mm thick thanks to changes in the PDP structure and platform and lighter components. The finger slim PDP 850 is over 60% thinner than earlier 50-inch products and over 20% lighter(26kg). Moreover, it consumes much less power, which was one of the weaknesses associated with PDP. Based on data released by Samsung Electronics' Visual Display Sales & Marketing Team, the model leads to savings of over 40% on electricity bills versus the prior year's product while assuming same level of brightness(50-inch basis). An additional 35% savings is possible with the "power saving mode."



PDP 850 featuring Samsung SDI's PDP module

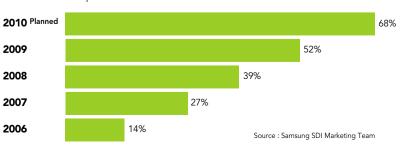
# SHINE.

#### Slim CRT

Due to growing demand for flat panel TVs, sales of CRT(Cathode Ray Tube) products are on a downward trend in the display market. Likewise, Samsung SDI's CRT sales volume tumbled from 29.9million units in 2008 to 16.6million units in 2009. In response to these trends, we reduced the number of overseas CRT lines from nine to five in 2009.

We expect the CRT sales decline rate to moderate in 2010 due to growth in exports to China and Latin America. In addition, we will continue to promote the sales of slim CRT with the launch of products like the 21-inch UXF and the 14-inch VXF.

• Vixlim sales as a portion of total CRT sales





#### **Evolution of vehicles**

The path of development begins with the hybrid electric vehicle(HEV), which combines the internal combustion engine(ICE) with an electric motor, and then progresses to the plug-in HEV and subsequently to the electric vehicle(EV). In an EV, the role of the ICE is diminished whereas the opposite is true for the electric motor and battery. Ultimately, the world should see an EV that uses no fossil fuels and is powered solely by electricity. The development of high-powered, high-capacity and safe batteries is a prerequisite for the development of xEV1).

xEV<sup>1)</sup>: HEV, Plug-in HEV, EV

#### Types of vehicles powered by electricity Plug-in HEV(PHEV) Battery can be charged with external No need for external power charging unit Battery has to be charged source; battery is charged while Short distance: runs on all-electric with external power source mode the engine is running Long distance: runs on HEV mode Battery capacity About 1kWh About 10kWh Over 16kWh Battery type High power High power High power Driving range 15 ~ 60km Over 100km engine plays a key role Battery and electric Features motor play key role

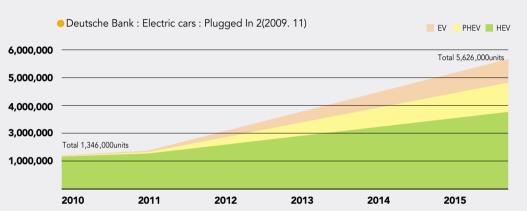
## **Driving Tomorrow**

# Electric cars average 64% increase



#### Changing paradigm in the automobile industry

The growth of the automobile industry over the past century was accompanied by developments in the internal combustion engine. However, the industry is facing a major change with the increasing spotlight on electric cars that run on batteries. Automakers need to respond to this shift toward electric cars, also referred to as the second revolution of automobiles, to keep pace with consumers' growing interest in ecofriendly and fuel-efficient vehicles. The supply of electric vehicles is expected to show rapid growth in line with a reviving global economy spurred by fiscal stimulus and worldwide efforts to address climate change and regulate greenhouse gas emissions. According to a forecast on electric cars released by Deutsche Bank of Germany, the xEV market should grow at an average annual rate of 64%, expanding from 1.346.000units in 2010 to 5.626.000units in 2015.



#### Battery supplier to BMW and Delphi

SB LiMotive was chosen as the exclusive supplier of batteries for EVs by the prominent German automaker BMW in August 2009. Under the Megacity Vehicle project, BMW is bringing its first series-production electric-drive model to market. Developed from the ground up, the Megacity vehicles will be available as an EV and PHEV. The prototype is set for launch in 2010 with mass production expected from 2013.

In December 2009, SB LiMotive was selected as the sole supplier of Li-ion batteries for hybrid commercial vehicles by Delphi of the US, with supplies to begin in 2012. This attests to SB LiMotive's technological prowess in Li-ion batteries for automobiles. Commercial vehicles, like trucks and buses, require enhanced performance in terms of battery life, power and temperature compared to passenger cars.

SB LiMotive's xEV Battery Pilot Product



#### **New start**

On September 10, 2009, SB LiMotive held a groundbreaking ceremony for a plant that will produce batteries for electric vehicles. SB LiMotive is a joint venture established by Samsung SDI and Bosch of Germany and the factory is being built on Samsung SDI's Ulsan Plant. The plant is slated to produce batteries for hybrid electric vehicles(HEV) and electric vehicles(EV) from the end of 2010. The company will continue to invest in developing batteries and battery systems for xEV and build up its client base through 2020. The goal is to capture 30% of the worldwide market share by 2015 and rise as a global leader in ecofriendly energy for automobiles.

Groundbreaking for EVs Battery Plant

Samsung SDI is investing in a plant for batteries for xEV to contribute to advancing the Ulsan regional economy and promoting Korea's green growth policy.



29

28

Source : SB LiMotive Corporate Planning Team

# Ecofriendly Story Circuit Ecofriendly

Continued effort to

oost eco-efficiency

Taking steps to minimize the environmental impact of a product throughout its life cycle holds the key to environmental sustainability.

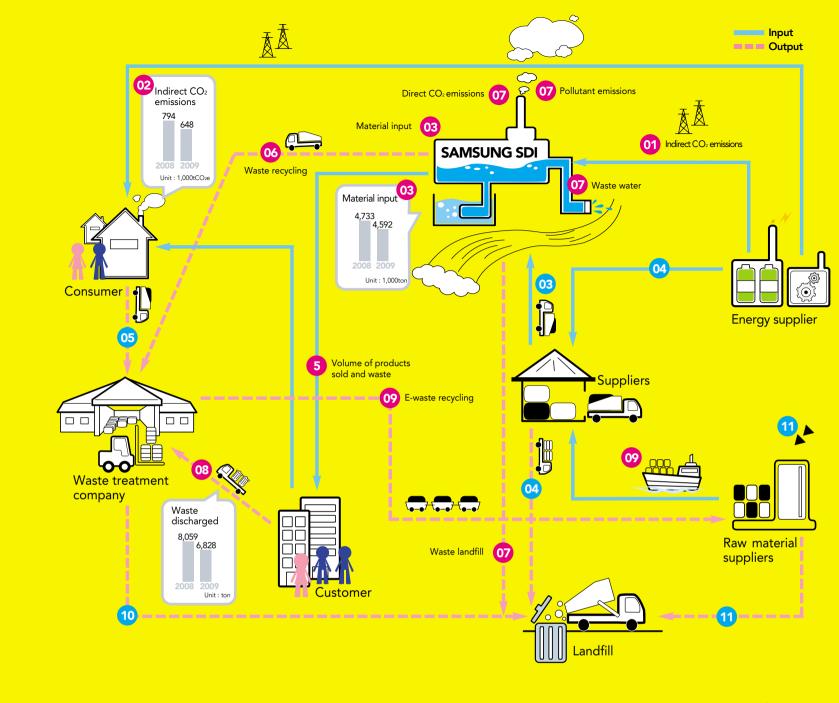
#### **Environmental sustainability**

Based on Samsung's green management philosophy, all of Samsung SDI's production and R&D facilities maintain environmental management systems that adhere to ISO 14001 standards.

In 2008, we adopted the target of more than doubling our environmental efficiency<sup>1)</sup> by 2011 to pursue more eco-efficient production. Our concern for the environment is not confined to production. We believe the effects a product has on the environment throughout its entire life cycle are more important. At this time, the effects we have identified and manage are rather limited. And as a parts supplier, we are not positioned to directly assess the environmental impact of the final product that is made using our components. However, we fully realize the importance of identifying and minimizing the impacts a product has on the environment and will give due consideration to the environment in all of our activities.

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

\*Note : We have provided the input and output data and quantitative assessment of the environmental impact of PDP and battery products manufactured on our premises in Korea in 2009. Although input materials and product output increased compared to 2008, water consumption, pollutant emission and waste generation decreased due to improved eco-efficiency. In addition, we helped to lower CO2 emissions during product usage by developing and supplying products with high energy efficiency. Samsung SDI will strive to identify and minimize the environmental impact of its products in all aspects, from raw material extraction and transportation to its suppliers.



	Category	2008	2009		
Consideration for	01 Indirect CO <sub>2</sub> emissions (Samsung SDI <sup>11</sup> )	457kilo tCO₂e	481kilo tCO <sub>2</sub> e		
the environment throughout a	02 Indirect CO₂ emissions (Consumers²)	794kilo tCO₂e	648kilo tCO₂e		
product's life cycle	03 Material input®	• Steels : 31,065ton • Glasses : 49,364ton • Plastics : 9,394ton • Papers : 3,829ton • Chemicals : 53,386ton • Others : 14,769ton	• Steels : 37,994ton • Plastics : 5,507ton • Chemicals : 40,294ton • Glasses : 58,933ton • Papers : 3,439ton • Others : 19,634ton		
	03 Water usage®	4,733kiloton	4,592kiloton		
The state of the s	Volume of products sold and waste	84,760ton	100,678ton		
	<b>™</b> Waste recycling <sup>1)</sup>	32,897ton	30,559ton		
	07 Direct CO <sub>2</sub> emissions <sup>1)</sup>	34kilo tCO₂e	35kilo tCO₂e		
N. P.	07 Waste water <sup>⊚</sup>	4,363kiloton	4,561kiloton		
	Waste landfill <sup>1)</sup>	3,928ton	2,343ton	5)E	
OV Pollutant emissions <sup>6)</sup>		• COD: 434ton • SS: 216ton • Dust: 16ton	• COD : 290ton • SS : 194ton • Dust : 13ton	6)E	
	08 Waste generation <sup>5</sup>	8,059ton	6,828ton	7)E	
4	<b>09</b> E-waste recycling <sup>7</sup>	73,148ton	79,633ton		

[Facts under verification]

6 Environmental impact during transportation

64 Environmental impact of raw material suppliers

10 Environmental impact of waste products

Environmental impact

Cheonan, Ulsan, Giheung headquarters Based on PDP 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

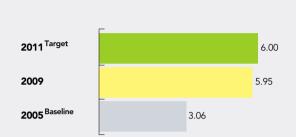
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Based on input materials, applied theoretical recycling rate

## **Eco-efficient production**

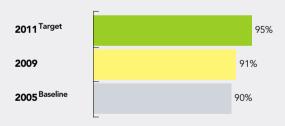
Water Usage 2.0 times

Water Use Efficiency



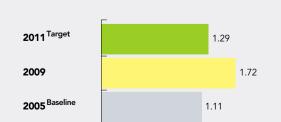
Waste **91 vs. 9**%

Waste Recycling/Landfill



Chemical substances 1.6 times

• Efficiency of Hazardous Chemicals



#### Water usage

Samsung SDI's global business sites collectively used 8,152kilotons of water for manufacturing purposes in 2009. That is a decrease of 2,605kilotons from the previous year. Water use efficiency was KRW 595million/ton, which was a two-fold improvement over KRW 306million/ton in 2005.

Samsung SDI will continue to boost water use efficiency with more efficient water consumption during production, water recycling, and use of rain water.

#### **Waste**

KRW 100mil/ton

KRW 100mil/ton

Samsung SDI strives to curb waste generation and conserve resources from the production stage. In 2009, we generated totally 59kilotons of waste(including overseas subsidiaries). Of that amount, 91% was recycled and the remaining 9% went to landfills. Waste generation in 2009 was down by 25kilotons from 85kilotons in 2008.

Discharge efficiency improved by roughly 1.3times, from KRW 61million/ton in 2008 to KRW 82million/ton in 2009. Our target is to reach a waste recycling rate of 95% and landfill rate of 5% by 2011. We will make every effort in all aspects of operations to promote resource circulation by curbing waste and boosting recycling.

#### Hazardous chemicals

We aim to curb the use of chemical substances and raise the efficiency of chemical use by 1.2 times by 2011. We have designated 24 types of hazardous chemical substances, and their total use in 2009 reached 28kilotons. Efficiency of use was KRW 172million/ton, up by 1.5times compared to KRW 110million/ton in the base year. Chemical use fell by 5kilotons from 2008(33kilotons). We will pursue further declines by reusing chemicals in the production process, suspending their use via process enhancement, and minimizing use in environmental and utility facilities. In 2009, our use of ozone depleting substances set forth in the Montreal Protocol amounted to 1,047kgCFC11eq. The substances were used as coolants. Usage in 2009 rose by 13% over 915kg/CFC11eq in 2008 as we replenished coolants for some cooling devices with lowered efficiency. We intend to reduce the use of ozone depleting substances via gradual replacement of inefficient cooling devices.

#### **Environmental investment and activities**

The total environmental investment and cost of Samsung SDI's business sites in Korea amounted to KRW 55.939billion in 2009.

				Unit : KRW million
Type of Activity	Investment <sup>1)</sup>	Cost <sup>2)</sup>	Benefits <sup>3)</sup>	Details
Treatment	740	32,204	17,448	Operation of in-house environmental facilities, consigned treatment, others
Prevention	5,454	17,466	1,495	Environmental education, measurement & analysis, audit, waste management, process improvement
Stakeholders	-	12	48,389	Support for environmental groups and local communities, environmental events
Legal compliance 8 remediation	-	63	-	Surcharge on waste, insurance

- Investment: Investment related to environmental activit
- 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

#### Legal compliance

In 2009, there was no instance of violation of environment related laws or agreements in any of Samsung SDI's business sites, both domestic and overseas, in terms of water and air pollutants, waste, and hazardous substances.

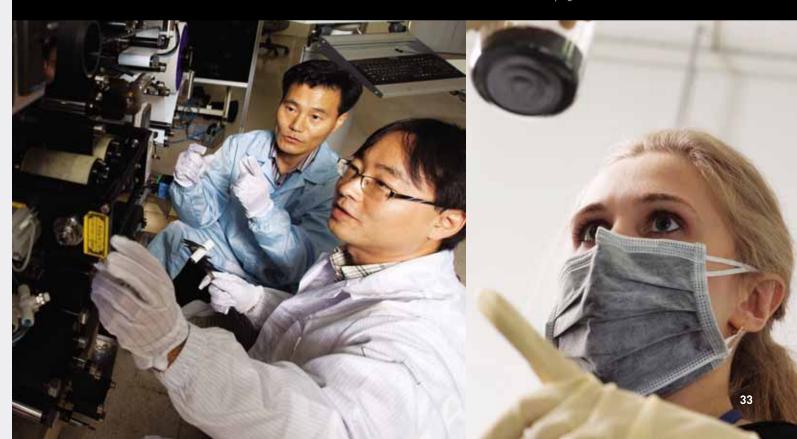


## Reduced chemical use in PDP process

Samsung SDI continues with efforts to enhance product quality and production efficiency. The Ulsan Plant has slashed the use of hydrochloric acid by more than 300 tons a year at the PDP line by minimizing defects and omitting the ITO reproduction process (reproducing products with minor defects). Also, development of new technology for barrier rib formation has removed the need for nitric acid and caustic soda, which should lead to annual reductions of 2,000 tons. A PDP module is composed of a glass substrate with barrier ribs. Previously, barrier ribs were formed through etching with nitric acid and then stripping with caustic soda. The new rib barrier formation technique developed by Samsung SDI omits the etching process, removing the need for chemicals used in etching and stripping.



 Rib barrier formation without etching and stripping at PDP line in Ulsan Plant





# ISSUE 4 Climate Change and Samsung SDI

#### Climate change and vision for future

The 21st century world is facing three crises, namely crises of the economy, resources and the environment (climate change).

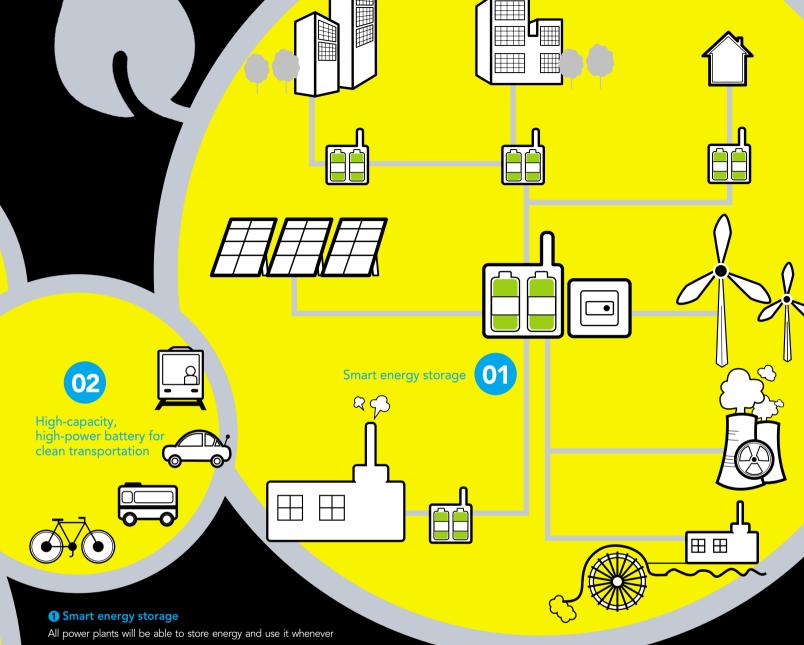
Climate change, in particular, is threatening the survival of humanity by causing climate disasters and disrupting the ecological balance. To prevent this looming catastrophe, the global community established a shared vision to limit temperature rise to 2°C or below by the end of the 21st century and contain greenhouse gas(GHG) concentrations in the atmosphere at 450 ppm or lower by 2050. In order to achieve these goals, a post-2012 climate agreement is under discussion. 2012 is the year when the first phase of the Kyoto Protocol expires. Some countries are also moving to regulate GHG emissions while developed nations are promoting low carbon green technologies and industries in connection with their respective long-term GHG reduction goals and waging a fierce war to lead the global market. For businesses, climate change is not only a risk that transforms existing products, services and corporate value but also an opportunity to create new value and markets. Samsung SDI made a full-scale entry into the energy market with the small rechargeable battery in the

late 1990s. It was our first foray into the

green and energy sector. The below diagram clearly illustrates the wide ranging applications of Samsung SDI's low carbon energy technology of the future. Samsung SDI will lead the era of climate change with environment friendly energy products and technologies that use resources wisely. products ● + ※ OLYMER BATTER Expansion of rechargeable **NMSUNG** portfolios SUNG Mion on RGEABLE BATTERY 

pply wide-ranging

future energy



All power plants will be able to store energy and use it whenever the need arises without being constrained by power production variability and usage concentrations. Fused with smart grid technology, the high-capacity storage will optimize energy efficiency. It will also contribute to the diffusion of alternative energy sources by resolving the weakness associated with solar, tidal and wind power, ie, irregular power generation due to changeable weather conditions.

#### 2 High-capacity, high-power battery for clean transportation

A new era of dean transportation is approaching. Soon, cars will no longer run on fossil fuel that emits harmful GHG. The internal combustion engine that dominated automobiles for the past 100 years will finally become extinct. Instead, we will see explosive demand for electric cars with high-power batteries in line with the consumer trend that places the highest value on environment protection and fuel efficiency. E-Bikes or electric bicycles will become a popular mode of transport for short hops around busy downtown streets.

#### **3** Green energy source in low-carbon city

Next-generation solar cells will be installed in buildings and outer walls of other city structures to power office lighting as well as cooling and heating systems. Houses

and apartment buildings will be equipped with high-capacity storage battery to support the use of safe and relatively low-cost energy in an efficient manner.

#### 4 Expansion of rechargeable battery-based product portfolios

Existing high-capacity small rechargeable batteries will evolve to accelerate the development of IT devices and home appliances with wide ranging functions to bring greater convenience to our lives. We plan to expand the application scope of rechargeable batteries to industrial and medical uses.

#### **5** Limitless possibility of future innovative products

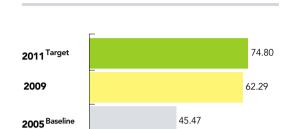
source in low-carbon city

Imagine what we can do if we can produce, store and reuse energy in the given conditions without outside help. Samsung SDI is working to drive the development of leading-edge energy technologies that will solve the power limitations of unmanned aviation and space industries. These technologies should have limitless applications on tomorrow's innovative products.

Greenhouse gases

GHG by country

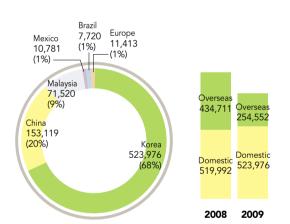
# Greenhouse gases 1.4 times



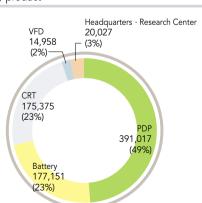
Unit : tCO2e

Unit: tCO2e

Unit : KRW 100million/kilo tCO2e



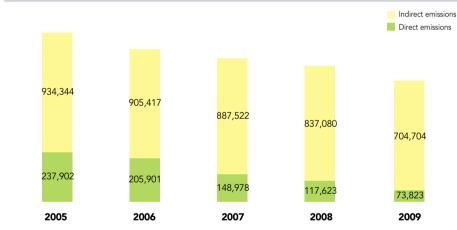
GHG by product



#### Greenhouse gases

In 2009, Samsung SDI's business sites worldwide achieved GHG emissions reduction of KRW 6.23billion/kilo tCO2e, an improvement of approximately 1.4 times from the 2005 baseline(KRW4.5 billion/ kilo tCO2e). GHG emissions from entire operations totaled 778,528tCO2e, down by 176,174tCO2e compared to 2008. GHG emissions from domestic operations accounted for 523,976tCO2e while overseas operations' GHG emissions totaled 254,552tCO<sub>2</sub>e. With the transition to an environment friendly, energy company in 2009, overseas operations' GHG emissions were reduced by 41% from the previous year. This was the result of gradual abolition of CRT production lines with high GHG emissions and the expansion of battery and PDP module production with relatively low emissions. By product, total GHG emissions of PDP were 391,107tCO2e, battery 177,151tCO2e, CRT 175,375tCO2e, and VFD 14,958tCO2e. Total emissions from the headquarters and research center were 20,000tCO2e. Breaking down by the emission sources, indirect emissions(electricity and steam) and fixed-bed combustion(fuel combustion) each accounted for 91% and 6% of the total emissions, validating Samsung SDI's ongoing efforts to conserve electricity and fuel. In 2009, we continued our focus on improving energy efficiency. In particular, Cheonan Plant successfully reduced GHG emissions to 13,159tCO2e by getting supply of surplus steam from the city's waste heat. This resulted in annual LNG savings of about 8,600kilo Nm3. Cheonan City's waste heat recovery system is part of the Energy Management Corporation's KCER(Korea Certified Emission Reductions) scheme. Other business sites are also committed to reducing fuel and power usage.

● Direct/indirect GHG emissions Unit: tCO₂e



# GHG emissions alculation protocol

We applied IPCC(Intergovernmental Panel on Climate Change)'s 2006 Guidelines for National Greenhouse Gas Inventories and the 2004 Corporate Accounting and Reporting Standard published by World Resources Institute and World Business Council for Sustainable Development(WBCSD).

#### 2. Conversion factor by energy source

1. Greenhouse gases accounting criteria

Domestic operations' calorific value by energy was calculated based on the net calorific value of energy conversion factors stipulated in the Enforcement Rule of Energy Act(2006). Baselines were 7,400kcal/L for gasoline, 8,450kcal/L for light oil(diesel), 8,200kcal/L for kerosene, 9,350kcal/L for heavy oil(Bunker C oil), 9,550kcal/Nm3 for LNG, 13,800kcal/Nm³ for vaporizing LPG and 11,050kcal/kg for liquid LPG(based on propane). The carbon emission factors in the power category used the baseline of 0.1156tC/MWh, data from Korea Energy Economics Institute(2005). In the power category, the GHG emission factors used KPX(Korea Power Exchange)'s emission factor for the pertinent year while 0.4691tCO2e / MWh was applied for 2009. For overseas operations, we applied data submitted by each subsidiary's energy provider and the country they operate in. For the countries where national energy source emission coefficients have not been established or where it is difficult to conduct surveys of calorific value by energy source, data from Korea were used.

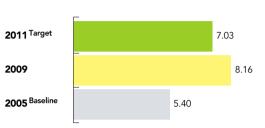
#### **Energy**

Energy usage totaled 5,941TJ, with electricity and steam(indirect energy) and fuel(direct energy) use accounting for 5,054TJ and 887TJ, respectively. By product, energy usage was 3,076TJ for PDP, 1,458TJ for battery, 1,134TJ for CRT, and 61TJ for VFD. The headquarters and research center consumed 212TJ of energy. Compared to 2008, total energy usage declined by 1,273TJ. The energy use efficiency improved about 1.5 times from KRW 500million/TJ in the baseline year to KRW 800 million/TJ. Samsung SDI has been replacing heavy and light oil with the more environment friendly LNG. With the Brazil subsidiary stopping the use of light oil in 2009, all our operations worldwide now use the clean natural gas.



# 1.5 times

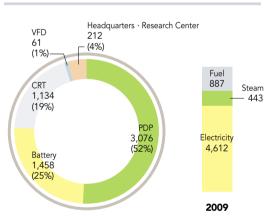




Energy use by product

Unit : TJ

37



## Reduction of PDP manufacturing process exhaust system

Samsung SDI is making sustained efforts to improve productivity of manufacturing plants. Productivity improvement involves more than increasing product output and reducing manufacturing time. Improving production lines to enable manufacturing of the same high quality product with minimal energy use and maximizing effi-

ciency of line operation can reduce GHG emissions. For example, Cheonan Plant reduced the duration time of the drying process of 58-inch UF1 at PDP Production Line 1. As a result, the plant was able to cut the number of exhaust systems in operation from three to one and realized an annual reduction of 1,162tCO2e. Moving forward, Samsung SDI plans to launch an energy innovation task force team comprised of employees representing each department. The team will be responsible for lowering GHG emissions from the entire manufacturing process.



PDP Manufacturing Process Exhaust System in Cheonan Plant

More information is available on Samsung SDI corporate website's <Sustainability-Climate Change & Environment> page. http://www.samsungsdi.com/sustain/s3\_1.jsp

# Named outstanding CDP(Carbon Disclosure Project) Company in 2009

The Korean Committee of CDP(Carbon Disclosure Project) named Samsung SDI the outstanding CDP company in 2009. Our proactive actions on climate change will continue to be subjected to objective evaluations by various information disclosure channels like CDP.







Good Company

**Employees** 

Local

Communities

**Shareholders** 

&

Investors

Customer

**Suppliers** 

Samsung SDI is committed to becoming a good company through proactive dialogue and harmonious growth with our stakeholders. Your valuable opinions are shaping Samsung SDI's

> ETHICS BUSINESS Harmony

& Growth

# **Clean Corporate** Culture

Compliance Management Organization

#### Compliance Officer

(Legal Team leader) Responsible for compliance program



## Compliance Secretariat

(Executives and managers) Dedicated team (planning/operation/evaluation)



(Relevant department heads) Vote and consult on compliance related matters

## **Sanctions Committee**

Build framework

(Compliance Committee carries out the role) Sanctions any legal violations



(Managers of relevant departments) Execute voluntary inspection

#### Compliance management

Samsung SDI introduced the Compliance Program in 2010 to pursue sustainable growth by adhering to business related laws and regulations. To this end, a compliance secretariat was set up under the legal team and a compliance officer appointed to be in charge of the compliance program. Regular sessions of the compliance committee comprised of team leaders of each department will be convened to discuss and consult on compliance related works and other key issues.

Samsung SDI will implement the Compliance Program in stages. First off, we are working on preparing the framework such as processes, policies and systems that will govern our commitment to compliance. We also conduct training for all employees to ensure that compliance management is firmly embedded in our corporate culture. Moreover, an ongoing monitoring system and disciplinary action against violations will help ensure effectiveness of the program. Samsung SDI will continue its endeavors to build a consistent culture of compliance to fulfill our social responsibility as a global company. Introduction of the Compliance Program and related performance for 2010 will be presented in the next year's Sustainability Report.

In 2009, Samsung SDI was not slapped with any penalties or sanctions for violating laws and regulations of the countries in which we operate or any international treaties. Regulators are still looking into alleged CRT antitrust violation, reported last year.

#### **Employee training**

Build system, implement and execute compliance training

Online and offline ethics education is conducted to instill in employees our commitment to perform with integrity. Core value and ethics training is included in the entry-level course for new/experienced

 Introduction of Compliance Program in phases Effective operation voluntary Operate monitoring system, compliance mpose sanctions against violations

> Build organization, prepare operational regulations and compliance management guidelines

Promote

recruits and courses for employees awaiting promotion to create and maintain a clean organizational culture. In 2007, we opened the ethical management online training course to help employees do

Special lecture on ethics management



No. of corruption prevention training participants

	Management	Non-management	Total
No. of persons per year	20	4,972	4,992

# Monitoring and handling unethical

Samsung SDI gathers information about ethical misconduct or unfair activities through various channels that include the ethical management website, intranet, email, phone and one-on-one interview. The identities of those raising integrity concerns are strictly protected and we provide prompt feedback via phone or email. To prevent potential corruption risks, we have in place companywide processes and systems to monitor illicit and unfair activities. Business partners, customer contact points and other departments with high corruption risks are subjected to inspection at all times. The probe focuses on transaction performance and collusive relationship with certain firms. We also look for signs of fraud by systematically reviewing abnormalities in payments. For two months from August 2009, we conducted a regular corruption inspection across all departments and disciplined violators. In 2010, our plan is to strengthen risk analysis activities aimed at preventing corruption and reinforce fraud monitoring at our overseas operations such as China

2009 Fraud and Corruption	No. of Cases
No. of employees discharged	25
No. of disciplinary actions	42
No. of contracts not renewed with business partners	0
Other actions	0



2009 was a year that required businesses to embrace change to survive in turbulent markets and to strengthen core corporate competencies. Samsung SDI focused on building and leveraging critical talent capabilities as the company strived to overcome difficult times and evolve into an energy company. To this end, we nurtured professional capabilities of our employees, raised efficiency of talent management and fostered an organizational culture imbued with a sense of unity.

Based on this strong foundation, we will accelerate change by promoting communication and trust in 2010. Our aim is to build a culture that values management-employee and interdepartmental communication. We also plan to initiate new programs to foster work-life balance and respect workplace diversity, in addition to improving welfare programs and HR system to motivate and inspire our people.

#### **Employee status**

Samsung SDI employed a total of 12,159people, including contract and dispatched workers, in 2009. The total number declined by approximately 20% due to downsizing at overseas CRT operations.

Overall turnover rate inched up 34.6% from the previous year's 32.4%. Restructuring of the CRT business in Mexico, China(Tianjin) and Brazil in 2009 led to an increase in turnover rates in America and Asia.

- Refer to Social Performance on page 55
- In accordance with the GRI G3 Guidelines, the turnover rate was calculated by dividing the number of those who resigned in 2009 by the number of employees as of end of 2009. This can be a departure from the typical turnover rate calculation method.
- When calculating the turnover rate, branches and offices with less than 20 employees were excluded

#### Labor-management culture

The power to change comes from communication and harmony between labor and management. At Samsung SDI, we encourage effective organizational communication and support work-life balance to build a company that employee can be proud of.

#### Labor council

Samsung SDI guarantees the freedom of association and right to collective bargaining underpinned by our principle of ethical management. We also operate the Labor Council to resolve employee grievances, protect their rights and enhance quality of life. The council is comprised of the same number of labor and management representatives and plays a major role in implementing policy improvements related to working conditions, wages and other employee rights. It also contributes to enhancing mutual trust by sharing with employees information regarding corporate policy changes, restructuring plans and other shakeups.

For the prompt handling of employee VOC, we activated a team-level labor council under each business division in 2009. On the month when the companywide council is not convened, the team-level meeting is held to discuss individual employee concerns and minor grievances. This has also enabled more detailed discussion on each agenda.

#### 2009 labor council key agreements

- Adjust wage and welfare programs : Adjust wage, Adjust PI and PS limits, Improve housing loan system, etc.
- Declaration of Labor-Management Win-Win Partnership: Ulsan and Cheonan Plants proclaim win-win partnership, Carry out an event to revitalize the organization
- Other grievances : Repair wellness center, Build conference room, etc.

#### Open counseling center

Samsung SDI operates a counseling center at each domestic business site aimed at creating a healthy and pleasant work environment. The center, manned by a professional counselor, is a venue where employees can relieve stress and talk about their grievances. It also helps to promote internal communication by breaking down the organizational barriers. At Cheonan Plant, the "Empathy Plus Seminar" started by a small group of employees at PDP Business Division in 2008 was expanded to encompass the entire Energy Business Division in 2009 at the employees' request.

So far, a total of 62 seminars were held with participants taking various psychological and personality tests like MBTI to gain deeper understanding about their colleagues' personal traits and characteristics.

At Ulsan Plant, a different topic is selected every month and notified to employees to encourage their participation in the group psychology tests. Using various personality assessment methods such as enneagram, MMPI and MBTI and promoting them to employees, we are raising the employee participation rate. A tailored mobile counseling program is made available for employees working at departments like the Fire Prevention Center, clinics and green center who cannot make personal visits to the

center due to location and time constraints.

Moreover, we are striving to help our employees deal better with stress and build stronger family relationships through counseling and training on diverse subjects from communication to etiquette, parentchildren psychological test, employees' children's aptitude test and grievance handling skills.

#### Human rights

Guided by Samsung Business Principles of "Respect for individual diversity and dignity," we at Samsung SDI respect the basic human rights.

We abide by the laws and regulations of every country we operate in and strictly prohibit child labor (under 15 years of age), forced labor and intermediary exploitation. Moreover, our major investment decisions and supplier transactions are all governed by our principle of respecting human rights.

During the reporting period, there was no violation of related laws across the company's entire global





Ulsan, TOC TOC program



• Giheung, Group psychological test

## ther towards 2010- Declaration of labor-management win-win partnership

In 2009, Ulsan and Cheonan Plants proclaimed win-win partnership between labor and management and pledged to advance a relationship of trust and harmony to create mutual benefits.

#### Win-win partnership at Ulsan Plant

In October 2009, Ulsan Plant pledged a sweeping win-win partnership initiative that goes beyond the labor-management relationship to include local community and government. Under the slogan "Marching Together to Green Company," the event was attended by 700 employees and local community leaders. The participants including the company president, Ulsan city mayor and the head of labor-management council declared their commitment to pursue win-win partnership and marched from the business site to nearby Tongdo Temple to demonstrate their firm resolve.

#### Cheonan Plant's Companions 2010

Attended by 500 employees, Cheonan Plant launched < Companions 2010 > cam- Cheonan Plant, Companions 2010 paign in November 2009. Employees took part in various events like "Companions 2010 Declaration," "Opening Window of Hope," and "Twin Bicycle March," all aimed at reinforcing the spirit of trust and harmony. The plant received positive response from employees for organizing diverse activities promoting interpersonal communication and unity within the plant in run up to the actual launch of Companions 2010 campaign. The activities included establishment of "Companions Supporters", "Dialogue with business division heads' and "Cheonan Championship competition."

#### Ulsan Plant, Marching together towards 2010





Angels refer to onsite peer counselors who have been active since 2007. Currently, a total of 88 onsite counselors, 67 at Cheonan Plant and 21 at Ulsan Plant, are working under the name Angel. Angels comprise of female employees selected from managerial levels who have completed professional counseling training. They offer advice to onsite staff based on their own experiences to help employees find prompt solutions. A key characteristic of Angels is that they give employees a platform for safe and open discussion of their concerns.

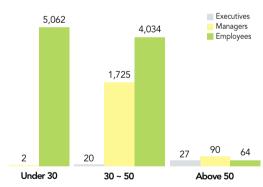
Companywide onsite counselors



Composition of workforce per gender



Composition of workforce per age



\*Based on regular workers

Hungary

#### Workplace equality and diversity

Preserving workplace equality is an integral part of our business. Under the principle, no employee is discriminated against based on their age, gender, ethnicity, religion or social status. Everyone is offered equal opportunity and performance-based evaluation in accordance with their capabilities and talent. We also conduct competency evaluations to encourage employees to develop core competencies required by each job function. Under the principle of "non-discriminatory compensation" and "performance-based compensation," we guarantee equal base pay for the same rank but offer differentiated rewards based on performance. During the reporting period, there was no case of workplace equality policy-related violations. Samsung SDI is working to create an

environment where our female employees can reach their full potential. Our efforts include maintaining the percentage of new female

recruits at about 20% of total new hires and supporting their professional growth by creating a female staff-friendly working environment. We also offer programs designed to help them develop leadership skills and build their careers and capabilities. Under review in 2010 is a plan to institute a Woman Board comprised of female executives and leaders of each business site to implement policies aimed at leveraging female talent and reforming unfair systems. In addition, we plan to invest in improving childcare infrastructure such as building day care facilities and maternity lounges at each business site.

#### Future talent nurturing

In an effort to nurture energy experts as we continue our transition into an environment friendly energy company, Samsung SDI opened the talent training center at Cheonan Plant in 2009. The center offers technology Nurture energy courses in the three areas of professionals cell, pack and facility

Strengthen

global communi-

cation skills

Mexico

Total

which are taught at different levels.

2010 plan to nurture global talent

Malaysia

Battery Promotion Center to deliver greater learning opportunities on the subject and provide a wide range of customized individual training courses aimed at fostering battery professionals.

We also teamed up with KAIST's Rechargeable

In 2010, we plan to focus on nurturing employees capable of carrying out tasks on a global scale. The emphasis will be on developing energy experts and next-generation business leaders as well as strengthening employees' global communication skills to advance our move towards evolving into an energyfocused company and pursuing new businesses.

#### Culture of creativity and communication

Winds of change are sweeping through Samsung SDI in 2010. All our employees are endeavoring to create an organizational culture that values autonomy and freedom. Innovative actions are being implemented to this end. They include introducing a flexible time program to ensure work-life balance, maintaining direct communication channels between employees and executives, and creating a dynamic and fun organizational culture that rejects bureaucratic practices and tokenism.

Our efforts to build a flexible and proactive culture that values creativity and communication will be reported in next year's Sustainability Report.

#### Healthy workplace

The OHSAS 18001 international standard for occupational health and safety management system requires businesses to identify and manage potential risks for industrial accidents on an ongoing basis. As such, Samsung SDI's manufacturing sites and research centers have implemented a health and safety management system in compliance with OHSAS 18001 and conduct third party inspections to secure external credibility on a regular basis. Each business site also mapped out a respective health and safety plan to take site-appropriate actions for safety prevention and health promotion.

Starting in January 2010, health and safety training mostly conducted offline was integrated into the Environmental Safety Training System to deliver more effective and systematic training. Samsung SDI's 2009 injury rate<sup>1)</sup> (IR) was 0.22 and loss day rate<sup>2)</sup> (LDR) was 8.85.

Health promotion campaign

Giheung headquarters launched a fun-filled health promotion campaign aimed at encouraging employees' voluntary participation. Starting with a 60-day weight loss project, we offer various programs such as smoke cessation programs to help employees de-stress and adopt healthy lifestyles. As a result, the number of reported work-related diseases was zero for the second year in a row in 2009. We will continue our efforts to create a healthy working environment for our employees by devising more diverse programs and operating in-house clinics and gyms.



Giheung headquarters smoke cessation clinic

43

1) Injury rate: total injuries / total hours worked x 200,000(based on GRI Guidelines)

Ratio of local department heads 2009 2008 Samsung SDI has six overseas production subsidiaries in China, Malaysia, Mexico and Hungary. Of the total 66 departments, 19 are headed by locals. The decrease in number of departments following corporate overhaul in 2009 led to a drop in the total number of local department heads. However, the ratio of the total number of departments to local heads was 29% which was similar to the previous year's level. 36% 33% 33% 33% 29% 23% 14%

Foster nextgeneration

business leaders







• 40<sup>th</sup> general shareholders' meeting

Samsung SDI is communicating proactively with shareholders and investors to promote greater common understanding and trust while conducting diverse IR activities to realize mutual benefits. Earnings release, IR roadshows, conferences, oneon-one meetings and production line tours are arranged to disclose business outcome and share important corporate information with shareholders. We also collect their feedback through diverse channels and incorporate their opinions in our overall management. Financial information is disclosed in real time on our corporate website's financial information page and through the VOC system and IR phone calls.

#### New start

In 2009, Samsung SDI declared its vision to evolve into a leading ecofriendly, clean energy company and carried out relevant corporate overhaul. In an effort to help our shareholders and investors fully appreciate these changes, we held one-on-one meetings and regular conferences for domestic and overseas investors and organized

onsite IR events such as technology seminars on energy business and tours of battery production lines. Collected shareholder/investor opinions and market responses are reflected in our operations through management briefings and internal sharing. Moving forward in 2010, our plan is to strengthen overseas IR activities for foreign investment firms and shareholders. In addition, we will implement a proactive IR strategy to satisfy the needs of our investors and shareholders by holding technology seminars designed to raise understanding about batteries for electric vehicles and high-capacity batteries.

#### Shareholders' meeting

On March 13, 2010, the 40th General Shareholders' Meeting was held at Kyoyuk Munhwa Hoekhwan building in southern Seoul. At the meeting, shareholders passed resolutions on a total of four items on the agenda including business results, internal/external board member appointment and compensation ceiling.





Customer satisfaction is the backbone of sustainable growth. Samsung SDI is working to minimize customer inconvenience and create greater value by delivering safe and superior quality products, developing green products reflecting customer expectations, listening to the voice of our customers and expanding Samsung SDI-customer

#### For No.1 safety & quality

collaboration.

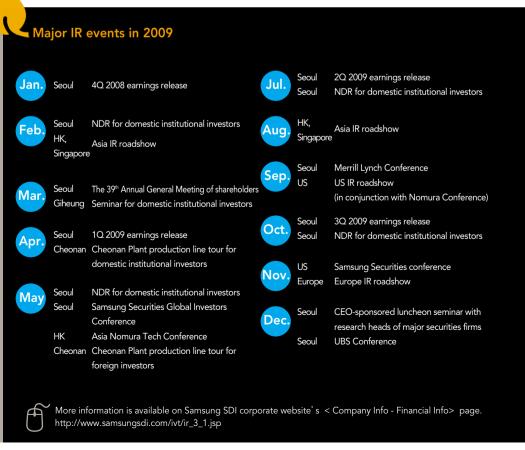
Securing safety and quality of lithium ion battery is essential to our survival as well as enhancing customer satisfaction. Our rigorous quality control has protected us from being involved in any safety-related accidents or product recalls. In 2009, we launched the Customer Environment Test at the product's customer approval phase to inspect safety risks of new models and businesses and introduced customer safety guidelines. Also, we are fueling customer happiness by setting up local reliability centers in strategic overseas locations to respond swiftly to customer requests related to product credibility and quality.

#### Always with customers

Communication is at the heart of Samsung SDI's strategy to enhance customer satisfaction. On top of such customer-centric actions as regular client visits, online VOC system and global service network, we have established customer response and development teams at major overseas bases like Taiwan and Shanghai to deliver complete customer service at the local level. From product development to manufacturing, we respond promptly to fulfill expectations of our global customers.

In terms of VOC, our principle is to take initial action 24 hours after receiving customer complaints and provide feedback within seven days through organic cooperation with related departments like marketing, quality control and development. Through regular QBR (Quarterly Business Review) meetings with customers, we review product strategy and related activities and pursue cooperative measures. We also operate "Customer Day" for each of our key clients to demonstrate our commitment to offering the highest level of service from product development to manufacturing, shipment, delivery and quality assurance.







Samsung SDI launched the Collaborative Design Information System (CDIS) in February 2010. Under the CDIS, Samsung SDI and client firms jointly oversee a product development project. The system was created as an answer to the voice of customer that asked to receive project related information any time anywhere. The CDIS enabled us to resolve weaknesses of email use such as tracking project history and omission of information. Going forward, we plan to expand the system to major client firms with tailored processes per customer.





The structure of corporate competition is shifting from contest among individual companies to competition among business networks. To take the lead in this changing landscape, sustainable growth with suppliers through mutual partnership is crucial. Samsung SDI shares culture and infrastructure for mutual partnership with its suppliers by setting expectations regarding fair transactions and social responsibilities and offering support to sharpen suppliers' competitive edge.

#### Mutual partnership

Samsung SDI operates a mutual partnership task force dedicated to helping our suppliers hone their competitive edge and realize mutual growth. The task force is responsible for mapping out plans for manufacturing and facility innovation, quality assurance, green management and talent nurturing and offers comprehensive guidance, training, diagnosis and accreditation for our business partners.

In 2009, our supplier training and inspection focused on improving quality and productivity, securing self-sufficiency through talent nurturing, and establishing the culture of win-win partnership.

Our plan for 2010 is to help our business partners

pursue green and socially responsible management by expanding the low-carbon green partnership initiative and implementing new S-Partner system.

# Social responsibility throughout supply chain

Most global electrical and electronics companies require their supply chain to comply with the set of accountabilities regarding corporate social responsibility. In 2004, HP, Dell, IBM and other global electronics firms got together to form the Electronic Industry Code of Conduct(EICC) designed to improve efficiency and social responsibility in the global supply chain. As of now, 42 leading electrical and electronics firms worldwide have adopted the EICC Code of Conduct.

Since 2005, Samsung SDI has been operating the S-Partner accreditation system that assesses not only suppliers' QCD(quality, cost, delivery) performances but also social and environmental standards when selecting suppliers in an effort to improve their long-term value as sustainable partners.

Based on the EICC Code of Conduct, we revamped the S-Partner system in 2009 to provide comprehensive guidelines on corporate social responsibili-



Low-carbon green partnership 1st year kick-off W/S



The 13<sup>th</sup> supplier innovation contest

ty by conducting focused assessment in the areas of labor, ethics, and health and safety. We also offered preliminary training to our suppliers to help them understand the reasons for introducing the system and carried out document reviews and onsite inspections for some key suppliers. In 2010, we plan to expand the S-Partner system to include all our business partners.

# Low-carbon green partnership With SMEs

Climate change is dramatically altering the way companies do business. Domestic and international laws and regulations on carbon emissions and product efficiency, evaluation of climate change risks, demand for transparent information disclosure and rise in energy costs are requiring businesses to take the initiative in addressing climate change to secure a competitive edge. As a preemptive action to the climate change issue and as a way to establish SME-focused low-carbon green partnership, Samsung SDI has teamed up with the Knowledge Economy Ministry to pursue the national project of low-carbon green partnership with SMEs. In December 2009, we signed an agreement with the Korean National Cleaner

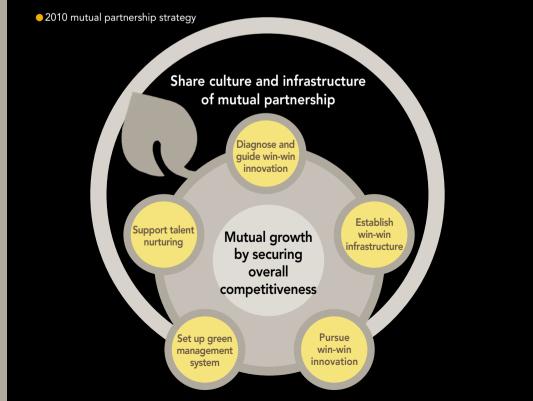
Production Center and held a business presentation/ kick-off workshop in February 2010, attended by employees of 37 major suppliers related to the battery business including providers of raw materials, parts and packs. By 2011, upon completion of the initiative, we plan to carry out such programs as training to strengthen climate change response capability, GHG diagnosis and reduction activities, and performance system. These efforts will help present a carbon reduction model across the entire rechargeable battery process and enhance global competitiveness of the Samsung SDI sourcing community.

#### **Supplier contest**

Samsung SDI holds an annual supplier contest to share information regarding changes in the corporate environment and management innovation results as well as identify weaknesses and seek improvements.

In December 2009, the Samsung SDI CEO, heads of major suppliers and executives attended the 13th Supplier Innovation Contest to introduce and acknowledge the year's best practices of supplier innovation.





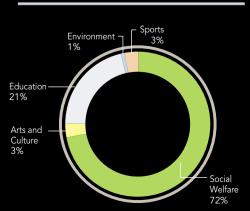




Samsung SDI is committed to solving diverse societal problems from welfare to education to the environment through a range of far-reaching corporate actions. From our representative "The Light of Love" campaign that supports free eye surgeries for the visually challenged, we work with various community partners to help our neighbors in need. CSR performance is systematically managed through the "Nanumi (sharing) Lounge" system and we try to identify areas that need improvement through surveys and interviews with beneficiaries and program participating employees. We also encourage greater employee involvement by awarding employees with outstanding volunteer achievements and supporting volunteer club activities. In 2009, a total of 7,542 employees engaged in volunteering while the company donated KRW680 million including KRW555 million raised through the matching grant "Light of Love" fund to support worthy causes (Korea basis). The ratio of employee donations to the company's matching grant for the "Light of Love" fund, which declined in 2007 due to the economic downturn, returned to 1:1 in 2009. Going forward, we will continue to carry out existing CSR programs while developing new social contribution activities that are aligned with our

Social contribution per area

energy company.



business strategy of building an ecofriendly, clean

The following is Samsung SDI's key 2009 corporate responsibility initiatives.

#### 15 years of light of love

Since 1995, Samsung SDI has been partnering with Siloam Eye Hospital to offer free eye care for our neighbors in need. The mobile eye clinic and free eye treatment is available to those living in remote rural areas, leper community and those who do not have the means or access to proper medical care. In 2009, 11,844 people in Korea alone received free preventive eye care and treatments as well as eyesight recovery surgeries. For the low-income visually impaired people, Samsung SDI offers such support as livelihood assistance, cultural/sport event hosting and production of electronic braille books and audio books. We will continue to support this cause to share the light of love with more people.

#### Sisterhood ties

Samsung SDI enjoys sustainable relationships with communities where we operate by establishing long-lasting sisterhood ties with farming or fishing villages. In Korea, we have six sister villages near our Giheung, Cheonan and Ulsan business sites. Employees help out in the busy farming season, hold markets to support sales of agricultural products and sponsor cultural events. Cheonan Plant, in particular, linked the sisterhood campaign with the CSR program that supports multicultural families and invited those families to get a firsthand taste of Korean farm life at the sister village. The Tianiin and Shenzhen subsidiaries in China also forged sisterhood ties and offer such help as improving town infrastructure, providing facility and goods, and carrying out safety training to enhance quality of life. Samsung SDI also enjoys sisterhood ties with several schools. Ulsan Plant's "1 company 7 schools" initiative, Giheung headquarters' "Graduate Album of Love" and Shanghai subsidiary's scholarship program are all designed to empower students and help them reach their full potential.

- 01 Cheonan, 1 company 1 village activity
- 02 Cheonan, Free eye treatment and surgery
- **03** Giheung, Science story, Environment story for elementary school students
- 04 Giheung, Graduation album of love
- 05 Tianjin, 1 heart 1 village activity
- 06 Tianjin, Support for school for the blind
- 07 Light of love free eye treatment and surgery
- **08** Cheonan, Mountain-climbing competition for the visually impaired
- 09 Tianjin, 1 heart 1 village activity
- 10 Cheonan, Sand trap installation to protect coastal dunes
- 11 Shenzhen, 1 heart 1 village activity
- 12 Shanghai, Scholarship program
- 13 Shenzhen, 1 company 1 river activity
- 14 Tianjin, 1 heart 1 village activity

# Supporting youth reach for a better tomorrow

Samsung SDI Central Research Center has been operating the Kids Science Class since 2006 to help elementary school students develop a love and appreciation for science. In 2009, the class was expanded to include environmental protection and renamed "Science story, environment story for kids" to raise awareness about environmental issues in children. We also take steps to make classes more beneficial. All lecturers comprised of our research staff undergo internal and external training and all class experiments and materials are inspected for any safety risks before actual classroom use through simulations. In 2009, eight science classes were conducted and attended by students from Giheung Elementary School and ten other schools from nearby new towns. We plan to continue to expand the scope and scale of the program.

#### **Greener community**

Samsung SDI carries out diverse programs to make our communities cleaner and greener. Cheonan Plant teamed up with government agencies, NGOs and business partners to eliminate foreign flora wreaking havoc on the domestic ecosystem, clean up oceans and install sand traps to protect coastal dunes. Cheonan Plant also holds environmental technology training for local SMEs twice a year. Samsung SDI will continue to take action to protect the environment and local ecosystems through the "one company one river" and "one company one mountain" preservation initiatives and green campaign.





ISSUE 11
Good
Corporate
Governance

Samsung SDI is committed to transparent corporate governance and responsible management practices that are aligned with the long-term interest of our shareholders.

#### **Board of directors**

Samsung SDI's Board of Directors is comprised of three inside directors and four outside directors. To ensure responsible management practices and leverage the expertise of board members, the CEO assumes the role of BOD Chair. The board is responsible for deliberating and making decisions on matters required by laws and articles of association, issues delegated by the general assembly of shareholders, and critical matters related to business operation.

The independent directors are selected from experts recommended by the Nomination Committee. Candidates must have in-depth knowledge and experience in fields like economics, business management, law and other areas related to the company. Those with a special interest in the company are not eligible to become outside directors. Both inside and outside directors are appointed following the shareholders vote at the general meeting. The newly appointed CEO Chi Hun Choi was named a new member of the board at the 40th shareholders' meeting held on March 19, 2010.

#### Committees under BOD

For rationale BOD operation and enhanced expertise in the decision-making process, the Board of Directors operates three committees of Management, Audit and Nominations. The Management Committee which reviews and decides on major business issues delegated by the BOD is directly responsible for the company's financial, environmental and social performances.

# BOD and executive evaluation and compensation

Director's pay limit 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 evaluation and receive compensations and benefits accordingly. The evaluation covers financial performance as well as safety, environmental, labor relations, corruption, and security related risks.

#### Sustainability management briefings

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

2nd 2010. 2.10

## 1st 2009. 4. 29

Sustainability

management

briefing to the BOD

- $\ ldot$  Sustainability management overview and trend
- Samsung SDI's sustainability management activities and mid-to-long term goals for improvements in the environmental segment
- Changes in sustainability management paradigm, key 2009 performances
- 2010 key issues and actions: Climate change, Product environmental regulations, Social accountability standardization, Supply chain management

#### Sustainability management steering committee

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

#### 2009 SM Steering Committee's key activities

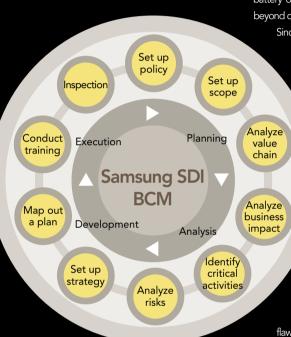
- First half Key sustainability issues, Mid-term strategy on the environment, Action plans for each business division, BCM(Business Continuity Management) training for executive leaders
- Second half Major 2009 performances, 2010 key issues(CSR standardization, Climate change), Mid-to-long term greenhouse gas strategy, 2010 social and environmental strategy







Samsung SDI's BCM scheme



BS25999 certification



Risk management, which involves taking actions to reduce the uncertainty of business activities, is essential to a company's sustainable growth and survival in today's complex business environment. Samsung SDI has implemented a risk management system aimed at preventing key risks in advance, and minimizing damage through prompt actions in case of an accident.

#### Business continuity management system

The battery business requires thorough risk management that surpasses conventional risk control as the business encompasses characteristics of both the electronics manufacturing and chemicals industries.

Samsung SDI is building the Business Continuity Management System(BCMS) throughout its domestic and overseas battery operations to strengthen their ability to swiftly regain business continuity from unwanted accidents, going beyond conventional methods of risk prevention and control.

Since organizing a task force representing all segments of the battery business in December 2008, we identified critical activities and pursuant risks and established the Business Continuity strategy and Business Continuity plan. After reviewing and improving the appropriateness of the BCM strategy and plan and subsequently conducting internal inspection and training for employees, Samsung SDI became the first Korea manufacturing company to obtain BCM international certification(BS25999) for all segments of the battery

For 2010, our plan is to establish the Business Continuity system at our key overseas battery production sites such as the Tianjin and Shanghai subsidiaries. Ultimately, we hope to instill BCM as our key corporate culture through ongoing training and management of the system to build resilience and the capability for an effective response.

#### Plant operation approval system

Samsung SDI has introduced a Plant Operation Approval System to manage potential risk factors that may arise when building new production lines or investing in new business opportunities. Under the system, any potential risks are eliminated in advance through regular inspections from the business planning to before-production stages.

Since 2009, the approval system has been in operation for SB LiMotive's production line which is under construction at the Ulsan Plant. The line will produce rechargeable battery for xEV. The objective is to build a flawless production system that meets schedule and quality standards before the slated launch of manufacturing in 2010 through preliminary inspections and preparations.

In 2009, we carried out comprehensive inspections related to legal compliance, training and awareness levels, work standardization and hazardous material management process in the six areas of manufacturing, layout/logistics, environmental safety, utility, quality and IT. Identified problems have been taken into account in building the production line. Going forward in 2010, we will strive to minimize risks and boost efficiency through two additional inspections.

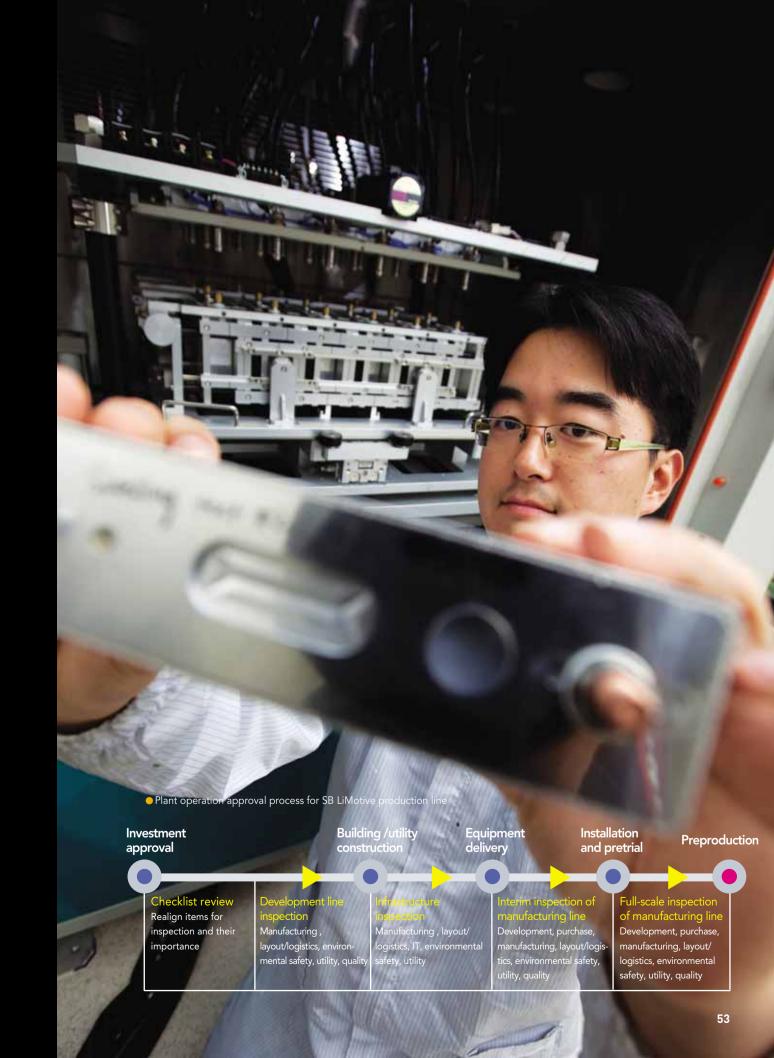
#### Chief Risk Officer(CRO)

For prevention and reduction of non-financial risks related to disasters and accidents, safety, health, environment and labor issues, Samsung SDI appoints the Chief Risk Officer(CRO). The CRO position is assumed by the head of human resources.

In addition, the company names an employee in charge of risk management per job function at all business sites. They are responsible for discovering and preventing non-financial risks. In times of emergency, they take quick and effective actions to minimize impact on business operations.

#### Internal control system

The internal control system has been in place to secure Samsung SDI's operational transparency through compliance with related laws as well as internal policies, regulations and processes. It includes the internal accounting control system aimed at strengthening credibility of financial data and other control activities 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. Moreover, the company is working to prevent risks related to violations of relevant laws, policies and processes and to revamp companywide processes.



# **Economic Performance**

## Abstract of consolidated financial statement

Unit	:	<b>KRW</b>	million
OTHE		1 /1 / A A	HILLIOH

	2005	2006	2007	2008	2009
Current assets	2,778,503	2,385,708	2,282,637	2,537,599	3,015,000
Quick assets	2,176,557	1,807,103	1,786,699	2,117,801	2,647,452
Inventories	601,946	578,605	495,938	419,798	367,548
Non-current assets	3,922,110	4,502,917	4,832,055	4,231,223	4,370,679
Investment assets	865,650	945,135	1,646,479	1,818,242	2,224,222
Tangible assets	2,759,498	3,269,575	2,898,303	2,155,813	1,883,847
Intangible assets	80,720	86,351	94,119	78,092	79,670
Other non-current assets	216,242	201,856	193,154	179,076	182,940
Total Assets	6,700,613	6,888,625	7,114,692	6,768,822	7,385,679
Current liabilities	1,503,241	1,593,461	1,249,327	1,092,630	1,519,700
Non-current liabilities	469,432	498,845	1,118,164	906,895	595,164
Total Liabilities	1,972,673	2,092,306	2,367,491	1,999,525	2,114,864
Capital stock	240,681	240,681	240,681	240,681	240,681
Consolidated capital surplus	1,291,601	1,289,528	1,287,595	1,320,044	1,331,143
Consolidated capital adjustment	(232,520)	(219,046)	(208,329)	(203,765)	(191,394)
Other comprehensive income	61,124	109,620	661,727	495,687	715,124
Consolidated retained earnings	3,240,647	3,264,312	2,645,768	2,684,641	2,891,544
Minority interests	126,408	111,224	119,759	232,009	283,717
Total Stockholders' Equity	4,727,940	4,796,319	4,747,201	4,769,297	5,270,815
Revenue	5,509,780	4,634,005	3,932,473	5,302,802	4,950,436
Operating income	49,989	15,657	(538,248)	133,030	107,158
Income(Loss) from continuing operations	(69,473)	24,047	(556,763)	159,877	214,668
Income(Loss) from discontinuing operation	336,926	78,032	(46,388)	(102,565)	0
Net Income(Loss)	267,453	102,079	(603,151)	57,312	214,668
Net income of controlling company	242,072	89,345	(592,183)	38,874	217,992

## **Economic indicators**

Current ratio (Unit : %)	184.83	149.72	182.71	232.25	198.39
Liability ratio (Unit: %)	41.72	43.62	49.87	41.92	40.12
Government support (Unit : KRW billion)	101	64	27	77	24
Local sourcing ratio (Unit : %)	62.4	65.5	62.2	61.2	58.6

# **Social Performance**

			2005	2006	2007	2008	2009
Employment		(Unit : people)	27,882	28,168	25,229	15,121	12,159
Linployment	Region	Korea	10,045	11,449	10,618	6,718	6,467
	Region	Asia	13,591	13,554	12,502	6,115	4,341
		Europe	1,785	1,188	663	565	616
		America	2,461	1,100	1,446	1,723	735
	Туре	Regular	26,738	27,509	24,385	14,145	11,024
	Туре	Contractual	152	175	24,363 178	14,143	251
		Outsourced	992	484	666	830	884
Turnover		(Unit : %)	22.3	26.8	34.4	32.4	34.6
Tuttiovet	Region	Korea	8.3	7.8	12.1	15.3	2.9
	Region	Asia	26.7	33.6	49.3	41.3	69.1
		Europe	26.7	81.8	88.4	50.5	35.2
		America	53.0	56.7	50.6	64.8	139.9
	Gender	Female	25.5	33.3	49.1	50.0	71.4
	Gender	Male	19.7	21.6	23.7	25.1	22.4
	Age	Under 30	28.6	30.9	44.2	41.3	54.3
	Age	30~50	11.2	17.3	17.4	22.0	19.2
		Above 50	15.4	121.4	45.4	55.0	12.2
Per capita hours traine	d *Karaz anly	(Unit : H)	144	185	110	107.5	102
r er capita nour 3 traine	Position	Executive	N/C	25	8	5.7	23
	1 03111011	Senior managers	N/C	232	151	121.7	118
		Junior employees	N/C	173	99	103.9	96
Injury rate	(Unit : total injury co	ount/total hours worked X 200,000)	0.39	0.35	0.18	0.27	0.22
,	Region	Korea	0.05	0.08	0.05	0.03	0.03
	9	Asia	0.60	0.48	0.25	0.15	0.17
		Europe	0.87	0.42	0.46	0.68	0.63
		America	0.84	1.26	0.55	1.66	1.38
Loss day rate	(Unit : number to Loss d	lays/total hours worked X 200,000)	57.35	33.91	7.84	7.01	8.85
	Region	Korea	59.32	5.99	4.20	2.56	2.98
	, and the second	Asia	80.51	83.38	6.36	4.67	4.15
		Europe	N/C	17.77	19.69	14.57	27.56
		America	3.11	11.08	30.92	33.24	55.47
Matching grant value		(Unit : KRW million)	861	946	564	574	555
		Employees	430	473	423	374	278
		Company	430	473	141	200	278
Cumulative numbers o recovery operation ber		(Unit : people)	104,636	100,499	120,672	131,755	143,619

<sup>\*</sup>Previously erroneous data for the regional injury rate for 2005~2007 are hereby corrected.

## **Environmental Performance**

	Indicator	Scope	Unit	2005	2006	2007	2008	2009
		Olahal	TJ	9,872	9,371	8,301	7,214	5,941
	Energy	Global	KRW 100million/TJ	5.40	4.89	4.70	7.18	8.16
		Korea	TJ	4,934	4,445	4,571	4,309	4,347
		Global	kiloton	17,418	16,148	12,805	10,757	8,152
Input	Water	Otobat	KRW 100million/kiloton	3.06	2.84	3.05	4.82	5.95
		Korea	kiloton	6,384	6,009	5,233	4,932	4,592
		Global	ton	47,822	47,452	33,041	33,001	28,223
	Hazardous chemicals	Global	KRW 100million/ton	1.11	0.96	1.18	1.57	1.72
	CHemicats	Korea	ton	38,083	38,381	27,370	28,494	26,410
		01.1.1	tCO <sub>2</sub> e	1,172,245	1,111,318	1,036,500	954,702	778,528
	Greenhouse	Global	KRW 100million/tCO2e	0.045	0.041	0.038	0.054	0.062
	gases	Korea	tCO <sub>2</sub> e	512,801	466,029	521,418	519,992	523,976
		NOx(Korea)	KRW 100million/kg	6.93	16.87	8.12	7.64	4.46
	Air pollution	SOx(Korea)	KRW 100million/kg	148.41	425.47	N/A	N/A	N/A
		Dust(Korea)	KRW 100million/kg	4.07	2.41	3.17	2.96	3.30
	Ozone depleting substances	Global	kgCFC11eq	1,254	1,205	1,013	915	1,047
			KRW 100million/kgCFC11eq	43	38	39	57	46
	Substances	Korea	kgCFC11eq	70	48	76	25	24
		Global	kiloton	12,336	11,807	9,282	8,077	6,559
	Wastewater	Global	KRW 100million/kiloton	4.32	3.88	4.20	6.41	7.39
Output		Korea	kiloton	5,401	5,228	4,274	4,550	4,680
		BOD(Korea)	KRW 100million/kg	0.28	0.34	0.15	0.12	0.15
	Water pollution	COD(Korea)	KRW 100million/kg	0.28	0.26	0.18	0.12	0.17
		SS(Korea)	KRW 100million/kg	0.52	0.38	0.26	0.24	0.25
			ton	125,439	129,548	112,276	84,714	58,911
		Global	KRW 100million/ton	0.42	0.35	0.35	0.61	0.82
		Korea	ton	48,112	57,582	57,166	36,825	32,911
	Waste	Recycling rate(Global)	%	89.8	88.4	89.0	89.4	90.7
		Recycling rate(Korea)	%	88.0	91.9	90.8	89.3	92.9
		Landfill rate(Global)	%	10.2	11.6	11.0	10.6	9.3
		Landfill rate(Korea)	%	12.0	8.1	9.2	10.7	7.1

#### Notes Related to Environmental Performance Data

- Notes rectact to Livin climate Period mance bata.

  Air and water pollution emission data are applicable only to Korea as some overseas subsidiaries operate under different pollution regulations, and emission measurement cycles are different from Korean standards. Such difference made global calculation of annual emission difficult
- Waste water volume refers to the volume of water treated after use in manufacturing processes. It does not includ sewage. However, the Suwon plant and the Corporate R&D Center in Giheung process industrial wastewater together with sewage so their data are inclusive of general swage.
- $3. \ The \ hazardous \ chemicals \ are \ based \ on \ the \ 24 \ substances \ under \ the \ intensive \ control \ of \ Samsung \ SDI.$

\*Data for domestic emissions of ozone depleting substances from 2005 which were erroneous in the 2008 Report are hereby corrected. No corrections are made for overall emissions and emission efficiency.

\*Due to changes in GHG emission factors in the electric power sector, GHG emissions and emissions efficiency from 2005 to 2009 were recalculated. .

## **Independent Assurance Statement**

#### | Scope and objectives |

Samsung SDI commissioned Two Tomorrows (Asia) Limited to undertake independent assurance of its 2009 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 fourth 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 SangMook Park and this assurance statement was prepared by the team in English, and reviewed and signed off by Todd Cort, a principal consultant of Two Tomorrows Group. Further information, including individual competencies relating to the team can be found at: www.twotomorrows.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 technologies (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 sus-

tainability issues including one executive vice president and the CFO. 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 Application 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.

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+.

#### I Observations I

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

Samsung SDI is demonstrating a strong commitment and responding proactively to safety management at corporate level. This is significant in light of the business restructuring to a battery business based energy company. Its effort to implement a business continuity management system in the Energy Business Division and expand the system covering its operation in China shows good direction. Moreover, it is encouraging to verify that the incident management plan and processes focusing on Samsung SDI's key stakeholders are developed, and the communication process for each stakeholder is established following last year's assurance recommendations.

The incident management system can also be a strong foundation for non-financial risk management. Particularly if Samsung SDI uses the materiality assessment to more clearly identify key stakeholder issues and relevant risks. The current system focusing primarily on safety issues from possible fires at the manufacturing site can be expanded to cover key sustainability issues such as product usage, anti-competition, ethics, environmen-

## **Independent Assurance Statement**

tal regulation and supply chain CR management.

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

- We recommend that Samsung SDI provide a more clear description of each stakeholder issue by directly quoting stakeholder expectations, or by explaining the key issues in direct relation to the relevant stakeholders. This will enable Samsung SDI to give more logical explanation of its key stakeholders, their relevant sustainability issues, and the company's response to the issues.
- Samsung SDI monitors media for incidents relating to battery safety. and is improving mechanisms for understanding the environmental and social expectations of clients through establishment of global hubs. However, such activities are still performed in a passive manner such as responding to client's requirements and taking action after an issue has already occurred. We recommend that Samsung SDI take more proactive engagement approach by establishing regular communication channels with key clients or by joining global initiatives to identify sustainability risks and issues within its global supply chain.

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

- The Samsung SDI materiality assessment process has improved as a result of the adoption of the five materiality assessment criteria defined in AA1000. It is particularly encouraging to note that Samsung SDI adopted last years recommendation to identify the relative priority of material issues based on the possible impact on external stakeholders and corporate management.
- We recommend that Samsung SDI improve the materiality assessment by more clearly focusing on sustainability issues e.g. product safety, resource extraction, labour rights, and fair transaction by reducing process or management approach related issues.
- Samsung SDI should ensure that significant issues identified from the functional departments such as compliance risk, direct environmental and social requirements of clients on new business are collected and reflected into the materiality process by the SM office. This will allow a more agile and comprehensive corporate response mechanism for new and evolving material issues to be regularly reported to the top management or the board of directors.
- Samsung SDI has an opportunity to elaborate on the decision-making process and prioritisation for each issue and to utilise the higher priority issues to determine the report structure.. In addition, Samsung SDI could establish a principle of more balanced disclosure that ensures reporting of incomplete performance and uncomfortable issues if they are identified as material.

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

• There are increasing international regulations and demands for

improved environmental performance of ICT products from company clients and consumers. The company's efforts to respond to these needs should be explained in terms of each product life-cycle phase (i.e. production to disposal). In particular, Samsung SDI should discuss its efforts to improve energy efficiency in product usage in relation to GHG reduction efforts.

- Given the limited resources of the company, we recommend that Samsung SDI take a more efficient approach to operating S-partner schemes by focusing on the global suppliers operating in the socially and environmentally high risk areas with poor infrastructures.
- It is encouraging to note that the performance on key material issues such as ecofriendly products, operational and product safety, and responsible supply chain management is reported to the board of directors. Continuous improvement in governance is recommended through the establishment of more clear roles and responsibilities for board members on key material issues.

#### | Performance information |

• The setting-up and disclosure of specific targets for environmental performance based on last year's recommendation is commendable. We recommend further efforts to establish and disclose targets for social performance as well as continuous and balanced reporting on the progress against these targets.

Two Tomorrows(Asia) Limited Seoul. Korea 13th May 2010





**Todd Cort** 

Project Leader

InMog Yang Lead Associate SangMook Park Associate

# **Verification Opinion**

#### Samsung SDI Co., Ltd.

Ulsan Plant, Suwon Plant, Cheonan Plant and Giheung Corporate R&D Center located in Korea.

Shenzhen Plant, Shanghai Plant and Tianjin Plant located in China,

Brazil Plant, Mexico Plant, Hungary Plant and Malaysia Plant located overseas area.

#### Scope:

The annual GHG emissions are for 2009 calendar year and adjusted GHG emissions are for 2002-2008 calendar year. The physical scope is within the boundary of the 11 sites mentioned above.

GHG emissions for SCOPE 1(Direct-emissions from the plant), SCOPE 2(Indirect-energy related) and partially SCOPE 3(Indirect emissions from outsourced activities) as defined in WBCSD/WRI GHG protocol Chapter 4 "Setting Operational Boundaries"

#### Data Verified:

The Green House Gas Emissions for the period of 2002~2009 calendar years are as follows:

Year	2002	2003	2004	2005	2006	2007	2008	2009
tCO2e	1,040,688	1,027,927	1,204,855	1,172,245	1,111,318	1,036,500	954,702	778,528

#### GHG Criteria & Protocols used for Verification:

The verification was carried out at the request of the Samsung SDI Co., Ltd. using:

- The Kyoto Protocol to the United Nations Framework Convention on Climate Change 11December 1997.
- 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 Global Best Practice Issued September 2003 as the principal reference documents.

BSI Management 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 Guides 65, EA-6/01 and Guide 66, 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.

#### **BSI Group Korea** J K Cheon / BSI Group Korea President

Date: 11 May 2010

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<sup>\*</sup>Two Tomorrows (Asia) Limited trading as Two Tomorrows was formed from the merger of Csrnetwork and Sd3 in January 2009, Two Tomorrows is an international consultancy that helps companies to perform better and create value by doing business in a sustainable way. www.twotomorrows.com

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Optional	GRI Checked						Assured

<sup>\*</sup>H : If relevant data are disclosed only at the corporate website

# Samsung Business Principles

#### Samsung Business Principles

Samsung aims to be a world leading company, devoting our human resources and technology to create superior products and services, thereby contributing to a better global society. To this end, we share and pursue Samsung Values; People, Excellence, Change, Integrity, Co-prosperity. As part of the effort to realize these values, we follow the Samsung Business Principles. These are not only our promise to comply with laws and good ethical practices, but also a concrete expression of our commitment to these values. The Samsung Business Principles will be the guiding standards for everyone in Samsung, outlining the conduct expected of all our employees both individually and collectively.

#### Principle 1: We comply with laws and ethical standards

#### 1-1. We respect the dignity and diversity of individuals

- We respect the basic human rights of everyone
- We do not, under any circumstances, permit forced labor, wage exploitation or child labor
- We do not discriminate against any stakeholders, including customers and employees, on the basis of nationality, race, gender, religion, etc

#### 1-2. We compete fairly, complying with laws and business ethics

- We comply with the laws of the countries and communities in which we conduct business and we respect business competition standards and practices
- We do not take any profits from unethical business practices
- O We do not permit the exchange of gifts, entertainment or any other form of bribery as an inducement to engage in unfair business practices

#### 1-3 We maintain accounting transparency by keeping accurate records

- We accurately record and maintain all business transactions to provide objective information on business activities for all stakeholders
- $\,\circ\,$  We abide by accounting rules of relevant countries and internationally accepted accounting standards
- $\circ$  We disclose material business matters such as major financial changes, corporate information as prescribed by law

#### 1-4 We do not intervene in politics and we maintain a neutral stance on all political issues

- We respect the political rights and opinions of the individual. However, political activity should be kept outside of the workplace
- We do not use company resources for political purposes
- We do not provide illegal political donation

#### Principle 2: We maintain a clean organizational culture

#### 2-1 We draw a strict line between public and private affairs in all business activities

- O When the interests of the company and the individual conflict, the legitimate interests of the company should take precedence
- We do not use company assets or the position within the company for personal interest (including embezzlement and misappropriation of company assets)
- We do not allow securities transactions such as trading in the company shares utilizing internal business information

#### 2-2 We protect and respect the intellectual property of the company and others

- We do not divulge internal intellectual property and classified information without prior permission or approval
- $\circ$  We respect the intellectual property of others by avoiding acts of infringement such as copying, distribution, modification or use without permission

#### 2-3 We create a healthy organizational atmosphere

- We foster positive working relationships by prohibiting harmful practices such as sexual harassment, violence and inappropriate monetary transactions between colleagues
- $\circ$  We do not allow favoritism or private groups based on external affiliations that is detrimental to the harmony within the company
- We establish win-win labor-management relations based on mutual trust and open communication

<sup>\* - :</sup> Assessments were not undertaken due to lack of relevance during the reporting period

# Samsung Business Principles

#### Principle 3: We respect customers, shareholders and employees

#### 3-1. We value customer satisfaction the top priority in our business activities

- We provide products and services that meet customer demands and expectations in a timely manner
- We treat our customers with sincerity and kindness, and attend to their proposals and complaints
- We respect and protect our customers' reputation and their personal and proprietary information

#### 3-2 We focus on shareholder value

- We strive to provide long-term benefits to shareholders through rational investment and efficient management
- We strive to make stable profits and increase the market value of the company with robust business operations
- We respect the rights, opinions and reasonable requests of shareholders

#### 3-3 We endeavor to improve employees' quality of life

- $\circ$  We provide equal opportunities to all employees, and treat them fairly based on their abilities and performance
- We encourage all employees to pursue continuous self-development and we actively support the improvement of their capabilities for better business performance
- We strive to provide a workplace environment that fosters personal initiative and creativity

#### Principle 4: We care for the environment, health and safety

#### 4-1. We engage in environmentally friendly management practices

- We observe global standards, related laws, and internal regulations related to conservation of the environment
- We endeavor to protect the environment in all business operations, including product development, manufacturing and sales
- We strive to implement activities that use resources efficiently such as recycling

#### 4-2 We value human health and safety

- o We observe global standards, related laws, and internal regulations related to safety
- o We strive to prevent accidents by complying with safety regulations and fostering a pleasant work environment
- $\circ$  We take every precaution not to supply products and services that could harm human health and safety

#### Principle 5: We are a socially responsible corporate citizen

#### 5-1. We actively perform our duties as a corporate citizen

- o We endeavor to raise public trust in our company by fulfilling our responsibilities and duties as a member of local communities
- We strive to generate stable employment and fulfill our responsibilities to pay taxes faithfully
- $\circ$  We strive to generate stable employment and fulfill our responsibilities to pay taxes faithfully

#### 5-2. We respect the characteristics of local custom, culture, and society, and strive to prosper together with local communities

- We respect the laws, cultures and values of the countries in which we do business, and we contribute to the quality of life of local residents
- $\circ \ \text{We lead the improvement of societies through the support of public activities such as education, art, culture and sports}$
- $\circ \ \text{We actively participate in public services such as volunteer activities and disaster relief services}$

#### 5-3. We build win-win relationships with business partners

- We form reciprocal relationships on the basis of mutual trust with our suppliers, and treat them as strategic partners
- We reinforce our suppliers' competitiveness with legitimate support in order to achieve co-prosperity

# 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 the 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? ☐ Institutional investor(☐ Socially responsible investment) Samsung SDI employee Customer □NGO Individual investor Supplier Government ☐ Industry association Enterprise Research institute Local resident Others Academia 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)

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low 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)									
☐ Climate change	Labor	Labor-management culti							
Diversity	Future product research and development	Legal compliance							
Social contribution	Health and safety	Pollution and waste							
Stakeholder engagement	☐ Human rights	Risk control							
Resource use and conservation	☐ Product safety	Corporate governance							
Ecofriendly supplier management	Green product research and development	Supplier support							

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





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Ethical Management http://www.samsungsdi.co.kr/ethics/eng/main.jsp



#### 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

#### Voice of Customers(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

#### Included in DJSI for six 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 2009 sustainability assessment of 2,500 companies worldwide, Samsung SDI was included in the DJSI for the sixth year in a row, the first for a Korean firm. In addition, the company was recognized with the Gold Class distinction(given to the leading company in each industry that receives an outstanding score of over 75 points in practices and policies) and selected as the Sector Mover(an honor given to the company with the most improved sustainable performance).



#### 2009 Frost and Sullivan Best Practices Awards

Every year, the US-based global marketing survey and consulting firm, Frost and Sullivan, recognizes exemplary achievements within each industry and functional discipline. In April 2009, Samsung SDI received the best quality and innovation prize for its rechargeable battery at the 2009 Frost & Sullivan Awards.

