



**GREEN  
Manufacturing**

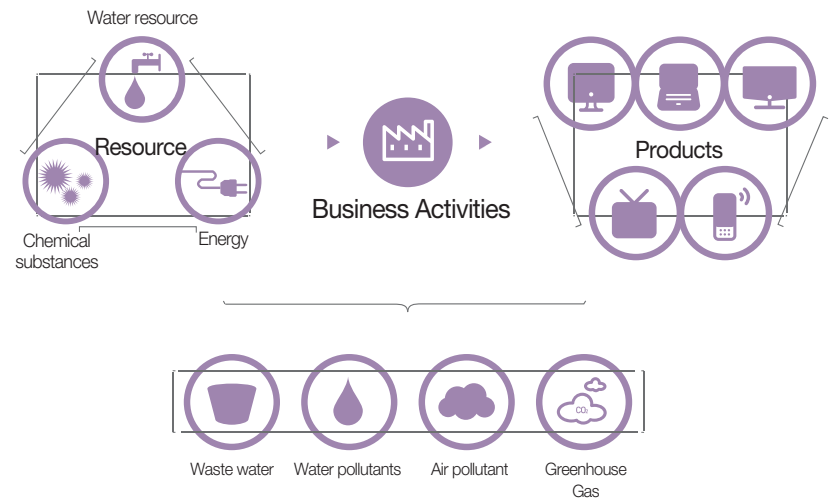
Life's Good





**We hope to fill our lives with green nature that provides harmony between our living environment and nature itself.**





LG Electronics strives to minimize the resources used in its business operations, while attempting to decrease the emission of pollutants. We are committed to enhancing our green management capabilities by securing talented individuals and providing training in all of our facilities and to our business partners.



• Changwon Plant 2

# Greenhouse Gas/Energy Management

Controlling greenhouse gases during the manufacturing process has become an important issue for companies due to the growing concerns over the global climate change. LG Electronics acknowledges the importance of taking action against climate change and is actively working to implement initiatives with the goal of reducing greenhouse gases by 75,000 tons by 2012 and 150,000 tons by 2020.

We are continuously enhancing our production energy efficiency through the optimization of the manufacturing system and process, while establishing a greenhouse gas inventory for each facility. Efforts to enhance production are being carried out at each facility based on its individual characteristics. We are actively striving to reduce greenhouse gas emissions in the entire manufacturing process.

### ● Participating in the CDP

LG Electronics participated as a “newly registered company” in the 6th CDP, an international carbon information disclosure program where a company’s management strategy related to countering climate changes is analyzed and sent to financial and investment institutions around the globe. Among the newly registered companies, we received the “Woorim Award” because of our selection as an “Excellent Company.”

We are confident that participating in the CDP and disclosing greenhouse gas information will play a positive role in investors’ decisions to invest in our company. We remain committed to the goals of the CDP and intend to participate in future programs.



• 6<sup>th</sup> Woorim Award

### ● Optimization of the Production System and Process

We are also working to reduce greenhouse gas emissions by optimizing our product systems and processes as well as replacing our low efficiency equipment with higher efficiency equipment. The followings are notable examples.



• Hot Steam Fan

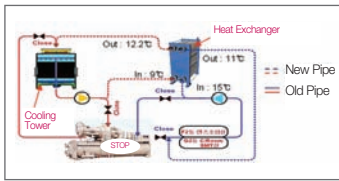


• Vacuum Pump(Improvement)

### Process Improvement Activities: Example of Our Changwon Facility (January ~ March 2008) (Improvement in the Air Conditioner Compressor Component Drying Process)

Investment/Savings	KRW110 million / Annual KRW160 million / Reduction of 721 tons of Greenhouse Gas
Background & Objective	Improvements were implemented because of the large amount of energy (steam, compressed air, fan motor) consumed during the wash and dry process for the air conditioner compressor component. There was also a need to expedite the cooling process in order to shorten the dry and wait period. Renovations were further required in the overall work environment related to hot wind drying.
Detailed Actions	Previously, this plant employed the hot wind drying method that uses steam and compressed air to dry the manufactured components after washing. By replacing this process with an electric vacuum pump, we were able to reduce the amount of energy used and enhance productivity. These changes also improved the overall work environment by reducing noise levels and temperature.

## Process Improvement Activities: Example of Our Pyongtaek Facility (November 2007 ~ March 2008) (Utilization of the Natural Cooling/Heating System)



• Natural Cooling/Heating System

**Investment/Savings** KRW 141million / Annual KRW 106.6million / Reduction of 646 tons of Greenhouse Gas

**Background & Objectives** Air conditioning was required year-around to reduce the temperature in the some departments such as the Lens Assembly in F2 Building and the Clean Room and SMT Room in G2 Building. Cold water is needed even in winter to supply cool air. As a result, the cooling equipment (1 Turbo Cooler unit, 880usRT) operates throughout the year. This need to continuously operate the cooling equipment and supply cold-water results in excessive power consumption. Cooling equipment maintenance and repair expenses have also increased because of the higher operating time.

**Detailed Actions** During winter, the system utilizes cold air from the outside to cool the areas that need to be air-conditioned year-around. As a result, power consumption has decreased because it is not necessary to operate the cooling system year-around. To operate this new system, heat exchange equipment and new pipes were installed to link the pipes for the existing cooling equipment with the heat exchanger.

### ● Established the Green House Gas Inventory

In 2007, LG Electronics created a strategy to manage and reduce greenhouse gases. This strategy included establishing a greenhouse gas inventory. In 2008, we completed the establishment of the greenhouse gas inventory for 12 of our facilities in Korea. Our greenhouse gas inventory was reviewed and verified by Norway's DNV, green house gas verification organization. This verification was based on our greenhouse gas management system and our attempts to reduce greenhouse gas emissions. Our efforts and the objective of the disclosure of our greenhouse gas emission amounts were acknowledged internationally. By the end of 2009, we plan to establish greenhouse gas inventories for thirty-two facilities, including some facilities outside of Korea.

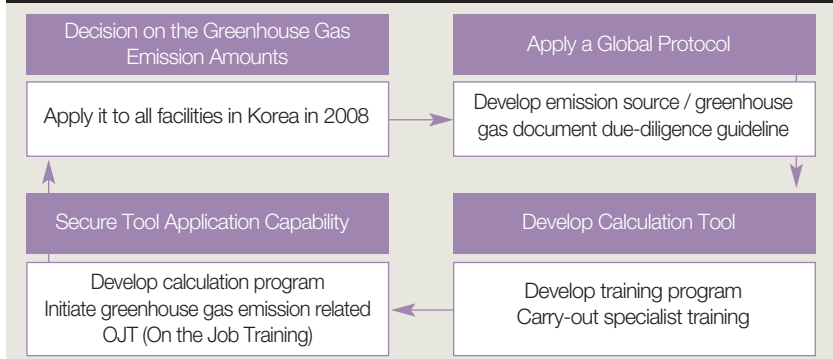
### ● Calculating the Emission Quantity

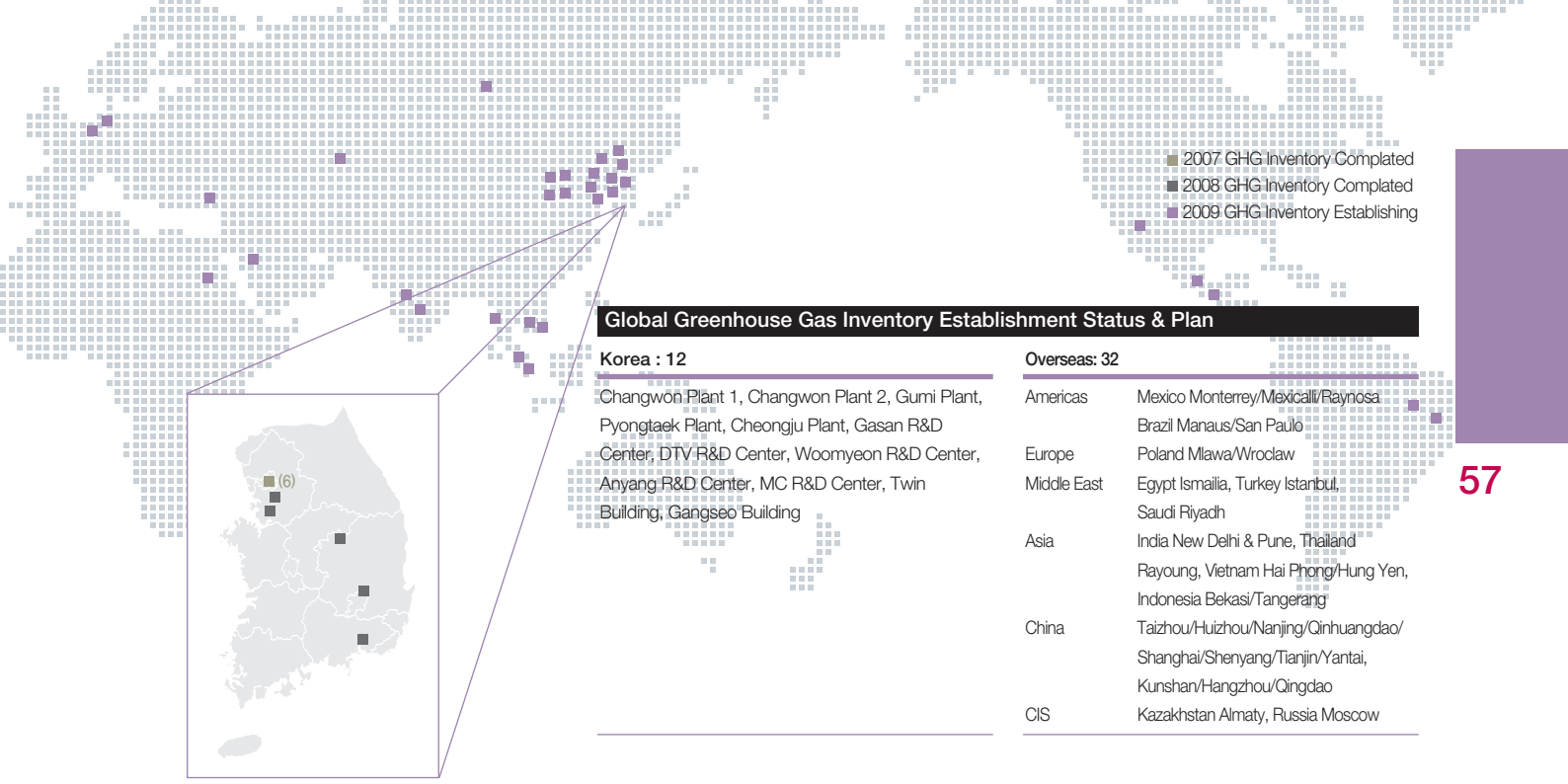
A control method was used to establish the organization boundaries for LG Electronics. The control method computes 100% of the greenhouse gases emitted by the operations under the company's control. The organization boundaries of LG Electronics include four plants, five research and development centers, the Kangseo Building, the Twin Tower and maintenance office building, and the employee's quarters in Korea. The emission quantity calculation report work process is as follows:



• 3rd party verification on green house gas emissions

### Emission Quantity Calculation Report Work Process





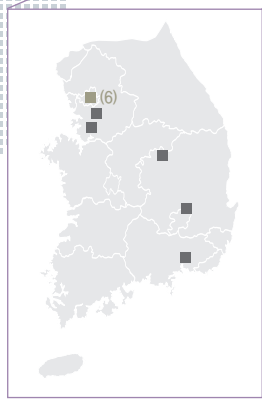
**Global Greenhouse Gas Inventory Establishment Status & Plan**

**Korea : 12**

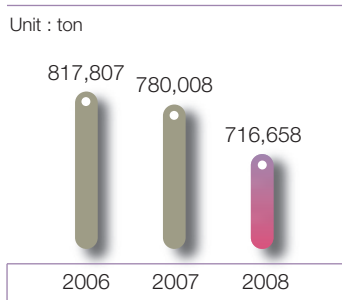
- Changwon Plant 1, Changwon Plant 2, Gumi Plant, Pyongtaek Plant, Cheongju Plant, Gasan R&D Center, DTV R&D Center, Woomyeon R&D Center, Anyang R&D Center, MC R&D Center, Twin Building, Gangseo Building

**Overseas: 32**

Americas	Mexico Monterrey/Mexicali/Raynosa Brazil Manaus/San Paulo
Europe	Poland Mlawa/Wroclaw
Middle East	Egypt Ismailia, Turkey Istanbul Saudi Riyadh
Asia	India New Delhi & Pune, Thailand Rayong, Vietnam Hai Phong/Hung Yen, Indonesia Bekasi/Tangerang
China	Taizhou/Huizhou/Nanjing/Qinhuangdao/ Shanghai/Shenyang/Tianjin/Yantai, Kunshan/Hangzhou/Qingdao
CIS	Kazakhstan Almaty, Russia Moscow



**Greenhouse Gas Emission Amounts at LG Facilities in Korea**



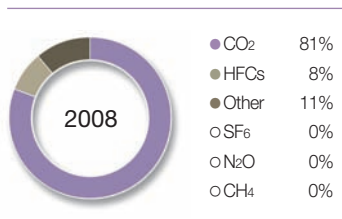
● **Greenhouse Gas Emission Amounts in Korea**

LG Electronics has undertaken efforts to analyze the source and amount greenhouse gases that are emitted by its operations. Due to its operations in Korea, LG Electronics emitted 716,658 tons of greenhouse gas in 2008. This amount is approximately a 15.3% reduction from 817,807 tons in 2006. These figures were derived by adding-up the emitted gases by type of fuel and the greenhouse gases from each facility. Looking at the composition of emitted gases, Scope2 gases, which are emitted from the use of power and steam, took up 70% of total gases or 502,190 tons of greenhouse gas. Scope1 gases, which consist of gases from fixed and shifting combustion equipment and gases emitted from the manufacturing process, took up 18% of total gases, or 128,201 tons. Scope3 gases included gases emitted from commuting shuttle buses, the Twin Towers, the DTV research and development center at Seoul National University (not operated by LG Electronics), and gases emitted at the products stage. The remaining percentage of gases included R-22 refrigerants, fire fighting Halon, and other greenhouse gases.

● **Energy Consumption**

LG Electronics consumed a total of 11,105TJ energy in 2008. This was a reduction of 7.5% compared to the previous year. This does not include energy consumption for transportation within the factories. The decrease in power consumption was due in part to a corporate-wide effort to reduce electricity consumption (including waste elimination and equipment improvement). The operational discontinuation of the Gumi A1 Plant also played a substantial role in reducing energy consumption. Although there are no restrictions on the amount of energy that can be used, we report our energy consumption to the Korea Energy Management Corporation. We are continuing to try to reduce energy usage.

**Greenhouse Gas Emission Amounts by Type (Domestic Facilities in 2008)**



**Energy Consumption at LG Electronics' Facilities in Korea**

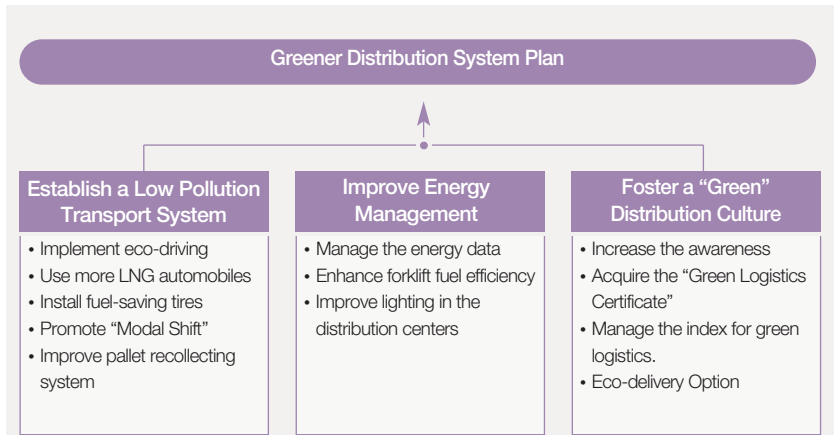
Unit : TJ

Period	Power	Steam	LNG	Others	Total
2007	10,369 (86.41%)	546 (4.55%)	1,076 (8.97%)	9 (0.07%)	12,000 (100.00%)
2008	9,698 (87.33%)	422 (3.80%)	979 (8.81%)	7 (0.06%)	11,105 (100.00%)

\* Energy consumption for transportation between the factories is excluded.

# Transportation

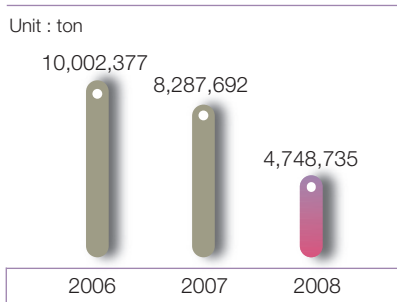
LG Electronics acknowledges the importance of reducing greenhouse gas emissions in the distribution sector. We plan to steadily initiate reduction activities by implementing twelve tasks within three categories. We believe this will enable us to take the lead in establishing a “Green Logistics Movement.” Initially, we completed a diagnostic evaluation of logistical activities in Korea and calculated the greenhouse gas emissions that result from these logistical activities in Korea. To effectively reduce greenhouse gas emissions that result from distribution, we categorized our plan into three segments that will help reduce emissions step-by-step. The three segments are i) create a low pollution transportation system, ii) improve energy management, and iii) establish a “Green Logistics Movement.”



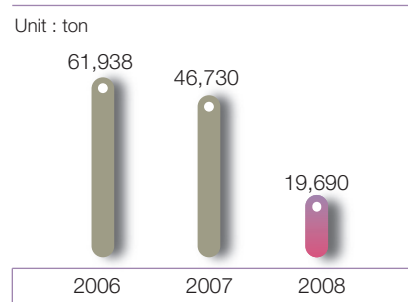
# Resource Utilization

LG Electronics is working to efficiently utilize resources during business operations. The total amount of water used in our facilities in Korea was to 4,748,735 tons in 2008. As a result of our reduction activities, we reduced our water usage by 338,957 tons. 3,200,000 tons was reduced due to the transferring of Osan and Cheongju facilities to LG Micron. Our facilities in Korea used 19,690 tons of hazardous substances in 2008. A major reason for this reduction was the transferring of the Osan and the Cheongju facilities to LG Micron.

**Water Consumption Quantity**



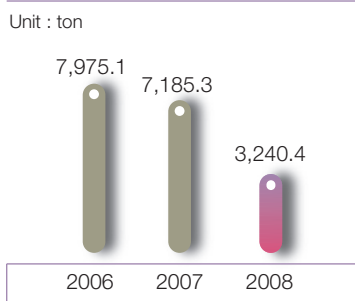
**Hazardous Chemical Substances**



# Pollutant Management

To help combat the environmental effects from production activities, LG Electronics operates a pollution prevention facility. This decrease of discharged of waste water in 2008 was due to the transferring of Osan and Cheongju facilities to LG Micron.

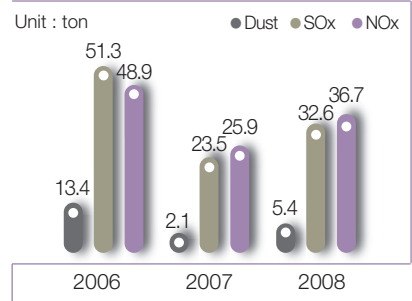
**Discharge of Waste Water**



**Discharge of Water Pollutants**



**Discharge of Air Pollutants**

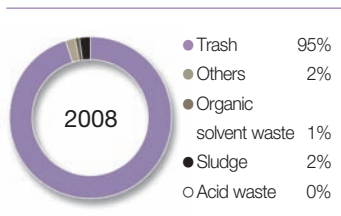


# Waste Management

LG Electronics is taking the lead in limiting and minimizing the usage of disposable materials within its facilities. LG Electronics had its efforts to increase resource recirculation and sustainable growth and received the Leading Resource Recycling Company award in 2008. LG Electronics enhanced resource recyclability at the Changwon Plant 1 by reducing waste and received the Presidential Award in Korea. Every year, the Ministry of Environment and the Korea Environment & Resources Corporation gives this award to a company that has demonstrated its commitment to working to reduce its waste and increase its use of recycled materials in the production process.

In 2008, the total discarded materials in all of our facilities in Korea amounted to 262,159.4 tons. Of this amount, 77,839.3 tons were recyclable and 184,320.1 were nonrecyclable, 95% of which was ordinary trash. As part of our effort to strengthen our preventive approach, we are continuously striving to improve our processes and carry out cleaner manufacturing activities.

**Composition of Waste**



**Discharge of Recyclable Waste**



**Discharge of Non-Recyclable Waste**

