POSCO

HEAD OFFICE

1, Koedong-dong, Nam-gu, Pohang City, Kyongsanbuk-do 790-600, Korea

SEOUL OFFICE

POSCO CENTER, 892, DAECHI-DONG, KANGNAM-GU, SEOUL 136-777, KOREA

POHANG WORKS 5, DONGCHON-DONG, NAM-GU, POHANG CITY, KYONGSANGBUK-DO 790-360, KOREA

KWANGYANG WORKS

700, KUMHO-DONG, KWANGYANG CITY, CHOLLANAM-DO 540-090, KOREA

HOMPAGE http://www.posco.co.kr

For the New Millennium

ENVIRONMENTAL PROGRESS REPORT 2000



Contents

- 03 Forward
- 04 CEO's Message
- 06 Policy & Organization
- Highlights for the Year 80
- 10 Environment-friendly Steelmaking
- 18 **Progress Report**
- 18 Investment in Environmental Protection Facility
- 19 Air Quality
- 20 Water Quality
- 22 Waste Recycling
- 24 CO² Reduction
- 26 Ecosystem Monitoring
- 28 Future Challenges
- 30 **Corporate Profile**



Forward



steel as keeper of the environment and provider of essentials to industry.

Remarks: All statements in this report regarding plans, projections and outlooks are based on assessments of current circumstances, including operating conditions, the business and legal environment, market factors and available information as of December 31, 1999. The data contained herein are subject to change, without notice, based on changes in such circumstances.





In antiquity, iron symbolized power. Peoples possessing iron have dominated world history, and they have built rich and powerful civilizations.

With the Industrial Revolution, iron became the catalyst that opened the Age of Technology. The advent of steel created an economic revolution and brought a new era in the history of human civilization.

Steel gave sustenance to the industry that supported 20th century society, and now it is the key to building future civilization. Steel allows us to dream of new vistas and to transform our lives. POSCO, stalwart of technology with limitless potential and protector of a clean global environment, is ushering in a new era of steel.



CEO's Message



It is now said that the 21st century is the "century of the environment." This means that solving environmental problems is the most urgent task facing humankind today. In the past, environmental issues were the responsibility of individual nations or companies to resolve. Today, these issues are increasingly shared by all people and must be addressed through cooperation among nations and regions. Moreover, environmental problems are growing ever more serious today, and business practices that put the top priority on simple growth are no longer possible. Demands for the immediate establishment of a new growth and development paradigm are getting louder with each passing day.

In December 1995, we unveiled the POSCO Environmental Policy, detailing our priorities on preserving the environment in all corporate activities, including procurement, production sales and after-sales service. This is a declaration of our environment-oriented business philosophy to both employees and the general public. We have always pursued an approach based on pollution prevention and have employed environment-friendly methods to produce and supply steel products. Environment enhancement efforts and production activities are carried out according to the principle of environmentally sound and sustainable development. These include strict adherence to Korean law and international agreements, energy conservation, byproduct and waste material recycling, environment-friendly product development and fundamental reductions in pollution-causing materials.

In the future, POSCO will continue to adopt the latest methods for environment management to be up to global standards in every respect. These methods include Life Cycle Assessment (measuring the environmental impact of product manufacture, use and disposal) and Environmental Performance Evaluation (scientific and objective rating of environment management standards).

In addition, we are investing unsparingly in mid- and long-term projects such as developing technology that cuts pollution generation at the source and running a program to reduce overall energy consumption 7.3% by 2004. Our performance as an environment-friendly steel maker is earning the public's trust in us.

The publishing of this Report is a reaffirmation of our firm determination to protect the environment. I also pledge our commitment to fulfilling our social responsibilities through ongoing environment preservation activities.

In return, I respectfully request your support.

B. Sang Boo Yoo Chairman of the Board Chief Executive Officer

Recvcling

A new age of environmental awareness is dawning for people everywhere.

ppn Hartk

Policy & Organization

Pohang Iron & Steel (POSCO) recognizes that environmental preservation is one of the most important aspects of doing business in order to ensure a high quality of life. The company has established a policy for work procedures and has adopted an internal environment management system that is based on the ISO 14001 standards. In the process, POSCO has switched from the conventional passive monitoring activities to a proactive effort aimed at preventing environmental accidents and constantly enhancing environmental quality in cooperation with the local community.

Policy

Environmental preservation has always been fundamental to POSCO's management approach. The company has established and enacted measures to prevent pollution from occurring at the source. Steel products have been manufactured and supplied in the most environment-friendly ways possible. To contribute to the global environment preservation effort, POSCO has instituted and strictly adheres to the following Environmental Policy. This Policy governs all activities being carried out at both the Pohang and Kwangyang Works:

- POSCO recognizes that the environment is a key factor in corporate management strategy, and the company strives to harmonize environmental concerns with other aspects of business operation for greater overall competitiveness.
- POSCO acknowledges that all corporate activities impact the environment and the company constantly strives to prevent pollution and improve environmental quality.
- The POSCO Environmental Policy begins with strict adherence to environment-related laws and regulations, and the company establishes and implements in-house standards that take into account the local environment in which operations are situated.
- POSCO always seeks ways to use energy most efficiently and to conserve resources used in every business activity.
- POSCO efficiently re-uses and recycles waste materials generated during production to avoid secondary pollution problems.
- POSCO establishes and implements plans for improving environmental quality and sets detailed targets to ensure that the Environmental Policy is carried out. Moreover, an audit system is in place to routinely review and evaluate the results of environmental protection efforts.
- POSCO remains committed to developing environment-related technologies, particularly "green" technologies.
- POSCO provides thorough training to all employees so that they can take part fully in the company's proactive efforts to improve environmental quality.
- POSCO provides all interested parties with reports on Environmental Policy and objectives, and all companies working with POSCO receive guidance on environment-friendly management practices.

Organization

POSCO's organization dedicated to environmental management consists of the Environment & Energy Team of the Technology Development Division at the Head Office as well as the Environment & Energy Departments at the Pohang and Kwangyang Works. The former establishes the basic direction for environmental management and attends to issues related to external cooperation and international agreements. The two on-site departments are tasked with carrying out environmental management at the steelworks.

Internal Organization

• Environment & Energy Dept. Environment & Resources Team Air Quality Preservation Team Water Preservation Sec.

• Administration Supporting Dept. Landscaping Team

External Organization

RIST Environment & Energy Research Div.





Things of vital importance are always within reach. From everyday containers to massive structures that scrape the sky...



...the world of steel keeps society solid and secure. This is the world of POSCO, a company that cares about people and the environment.



Environment-friendly Management System

Establishing a New Environment Management System

In conformity with its environment-friendly corporate image, POSCO has adopted the Environment Management System (EMS), designed for maximum efficiency and reliability. The system flow starts with environmental analysis, after which policy is established and then implemented. The success of this implementation is monitored and evaluated and then the policy is revised when necessary. This process chain is an ongoing effort to improve environmental protection and energy conservation efforts. At the same time, the



Receiving ISO 14001 Certification

POSCO was first certified with ISO 14001 in July 1996. To maintain compliance with the international standards for environmental quality, the company has been re-tested and has passed with excellent results. The recertification process has enabled POSCO to greatly improve in all relevant areas such as Environment Management System appropriateness, operational effectiveness and execution status. Today, the company's Environment Management System has reached maturity.

Promoting a "Clean and Green" Steelworks

The companywide Clean & Green Steelworks Campaign, which has been in effect since May 1999, has been highly successful and enthusiastically received by citizens living in the vicinity of the steelworks. The campaign focuses on minimizing the environmental impact of company operations on the local community and improving the environmental quality experienced by local citizens. Smokestack emissions



ISO 14001 certification

"Clean & Green" work site

Environment-friendly steel mill

R&D

company image is enhanced as an environment-friendly operation.

POSCO has replaced the conventional Environment Management System, which is closed and reactive, with a system that is transparent, open and centered on proactive prevention. Scientific environmental management methods have been introduced and prevention is approached systematically, to include thorough environmental impact assessment prior to investing in new facilities, developing new 6666266 products, or procuring raw materials.

have been reduced and emission concentrations lowered, creating a visible improvement in the air quality around the steelworks. This fact has been borne out in opinion surveys of people living in the area.

Environment Technology Development

Leading Korean Research in Environmental Protection

POSCO's efforts to preserve Nature include research on technology that will enhance energy efficiency and minimize pollution-causing emissions. In the process, the company has emerged as a domestic leader in helping to protect the earth and maintain a pleasant living

Technical Research Laboratories

accentrees of



environment. This research focuses on developing new facilities for processing airborne emissions and treating water as well as building diverse systems for recycling and reducing energy consumption.

High-efficiency Flourine Treatment

POSCO has completed development and field testing of a new flourine wastewater treatment system that is highly efficient and economical. The new system cuts the amount of flourine in wastewater, reducing costs by 60%. POSCO expects the technology to save the company some \forall 2 billion a year in the treatment of wastewater from steelmaking and stainless steel production alone.

Minimal Slopping Generation

POSCO has worked on methods to reduce slopping (dust emssions by the spillage of molten metal when oxygen is applied), a chronic

every effort to be a leader in the improvement of environmental performance within the steel industry.

Technology Exchanges

POSCO provides the IISI's Environment Subcommittee (ENCO) and Technology Subcommittee with useful materials on dealing with environmental problems. The company is also involved in various joint projects and information exchanges POSCO gives presentations on trends in domestic environmental problems and on in-house technology development at the annual ENCO meeting. While sharing information with IISI member companies, POSCO also takes part in joint surveys of the world steel industry related to carbon dioxide emissions, energy consumption, facilities for optimizing energy efficiency, fuel and raw materials required per unit of product, and hazardous substance and waste material generation. Objective reports are then compiled from the survey results to assist the top management at IISI member companies in decision making.



problem plaguing steelmakers. The Pohang Works formed a task force of engineers who, after studying various ideas and technology, managed to eliminate the slopping phenomenon altogether in July 1999. Their success is particularly meaningful today, as global environmental regulations get stricter and trade barriers related to those regulations intensify

Intenational Cooperation

Responding to International Environmental Issues

As a member of the International Iron and Steel Institute (IISI), POSCO is taking part in international activities aimed at addressing environmental issues. The POSCO chairman was appointed as a member of the IISI's Environmental Policy Group, and now he is making

Contraction and

Local Environment-friendly Activities

Support for Environment-friendly Activities and Research Projects

POSCO continues to engage in programs aimed at protecting the local environment-programs that are either initiated by POSCO or carried out in concert with local citizens' groups, non-government organizations, the central government or local governments. In-house environment- friendly activities have been taken to the local community to get more people involved. POSCO also supports various research projects, taking the lead in solving environmental issues at the national level.

Representatives from local citizens' groups, non-government organizations and government agencies are invited to the plant sites to observe

environmental protection systems in operation. They are briefed on key aspects of the systems and then allowed to ask questions as part of POSCO's policy of operational transparency. In 1999, POSCO and the Citizens' Coalition for Economic Justice (CCEJ) Environmental Development Center cooperated on research for effective industrial water management in the Pohang area. Now, the company is working with local citizens' groups to save the Hyungsan River. Support is also being provided for Citizens' Movement for Environmental Justice (CMEJ) research projects on establishing government policy for efficiently managing water resource demand in the 21st century and on water quality management policy for South Korea's five major river basins.

Fishing Ground Project

A recent Korean-Japanese Fishing Treaty has mandated that fewer fish be taken from the seas between the two countries, causing financial difficulties for fishermen. The Korean govrnment has supported an artificial reef project aimed at supplementing fishermen's incomes by

committed to this goal and has developed lead-free steel plate for automotive fuel tanks.

Environment-friendly steel is painted with an organic resin solution to make it rust resistant. The dangerous lead plating process has been eliminated entirely, and the steel is smultaneously coated with zinc-nickel and chromium as well as resin, raising productivity while greatly reducing production costs. The new product is expected to be very well received in nations with strict laws on heavy metals such as lead, mercury or cadmium.

Chromeless Insulation Coating

The POSCO Technical Research Laboratories Surface Treatment Research Group has developed a chrome-free insulation solution for coating silicon steel. Chromium can be harmful to both humans and the environment. The new technology is expected to create new demand in



increasing fish populations. Concrete structures had originally been used to construct the artificial reef in the waters off Pohang, but POSCO provided three steel-aluminum alloy structures, which have proven to be a far better environment in which fish and shellfish can thrive. Moreover, salt water causes the concrete to corrode and dissolve, polluting the water. On the other hand the steel aluminum alloy is corrosion resistant and remains clean.

welleliese

Developing Environment-friendly Products

Steel for Environment-friendly Automobiles

Industry is working harder to prevent pollution before it occurs by developing environment-friendly products and processes. POSCO, too, is

overseas markets such as Europe, where the use of chrome-free silicon steel is mandatory.

Promotion of Steel for Cans and Houses

One of the environmental preservation campaigns carried out at POSCO is to encourage the use of steel in cans and houses. Steel is more enviornment friendly than aluminum in cans because the steel can be automatically sorted by magnets during recycling, greatly lowering cost. Steel can be recycled easily just by melting. POSCO is calling for expanded can recycling systems and facilities to increase the volume of steel being re-used.



In addition, POSCO is promoting the use of steel-framed houses, which can be completely recycled when the house is demolished. This is not the case with conventional building materials such as brick or concrete. At the same time, using steel will reduce the amount of wood being used, helping to save precious forests.

Automated Enviornment Monitoring System

Automated Environment Monitoring System

POSCO operates systems that constantly monitor pollution levels in the vicinity of the Pohang and Kwangyang Works. These automated systems enhance the company's capability to control pollution by offering more comprehensive coverage of environmental conditions.

and countless flowers thrive in areas that make up about 20% of the Pohang Works and around 30% of the Kwangyang Works. As a result, the production complexes blend in better with the surrounding scenery, and the vegetation helps to reduce wind, dust and noise, while filtering other pollutants from the air. The green areas also provide a clean place for local citizens to enjoy their leisure and enhance POSCO's image as a "Clean & Green" operation.

Greening of the Parking Lot

POSCO continues to expand the green areas around its steelworks, to include the sub-center parking lot at the Pohang Works. Now the area can be used by employees for relaxation as well. The problem of insufficient parking space at the Works is being addressed by operating an integrated parking facility and encouraging car pooling.



Environment Monitoring Center

Environment-friendly steel mill

Green area

Environment Monitoring Center

An environment monitoring center has been mounted atop a 75-meter tower (previously used for rail traffic control) to more effectively carry out monitoring and warning activities. The bird's-eye view of the steelworks enables immediate detection of pollution sources and rapid response so that problems are solved while they are still small. The environment monitoring center is expected to significantly reduce airborne emissions and improve the air quality around POSCO's production complexes.

wellellellelle

Steelworks in a Park-like Setting

Formation and Management of Green Areas

From early on, POSCO has made and managed green areas inside and around the perimeters of the steelworks. Today, some 3 million trees

Paying Attention to the Tiniest of Details

Radioactive Steel Scrap Interceptors

In 1997, stationary dectors were installed at both the Pohang and Kwangyang Works to prevent the possibility of using controversial steel scrap tainted by radioactivity. Currently, three of the detectors are in operation.

The chances of obtaining radioactive steel scrap are very remote, but POSCO is committed to ensuring that it can never happen. To date, there have been no instances of radioactive steel scrap being processed at any Korean steelworks.

Radiation detectors







Investment in Environmental Protection Facilities

POSCO's policy regarding investment in environment-related facilities is to block the pollution at the source. The company intends to go beyond the practice of treating pollutants after they have been generated. The ultimate goal is to achieve zero generation of pollutants at all costs.

The aggregate investment in environmental protection at both steelworks stood at ± 2.055 trillion, or 9.1% of total investment, at the end of 1999. The bulk of this money has been spent on the end-of-pipe facilities.

In the future, however, investment will be focused mainly on the application of new processes that generate little pollution. Technology development will be geared toward the use of clean fuels and raw materials even though applications may be costly and difficult. In short, POSCO plans to generate as little pollution as possible.

Therefore, heavy oil with little sulfur or nitrogen content will be used as fuel for the company's reheating furnaces and thermal power plants starting in 2001. Also iron ore with high sulfur content will no longer be used from next year. In 2002, large-scale purification facilities for airborne emissions will be installed at POSCO's sintering plants to greatly reduce the amount of sulfer dioxide, dust and other pollutants being released into the atmosphere.



2000 2001 2002 2003 2004

FUTURE INVESTMENT IN ENVIRONMENTAL PROTECTION (in hundreds of millions of won)

*An aggregate of W2.055 trillion was invested between 1968 and 1999.

Air Quality

High-performance electro-static precipitators, bag houses and other sophisticated equipment have been installed at the steelworks to prevent the release of dust, sulfur dioxide and other airborne pollutants. Sprinkler systems for water and surface hardening agent are operated at the iron ore and coal storage yards to suppress flying dust. Wind breaking nets have been installed at the Kwangyang Works.

Coke oven gas (COG) desulfurization systems coupled with the use of low-sulfur coke are reducing the volume of SOx emissions, while Bunker C oil with 0.5% sulfur content has replaced 1.0% sulfur Bunker C at the on-site power plant. Low-nitrogen anthracite is being used, and low-NOx burners help to suppress NOx generation during combustion in the reheating furnaces. Steam collection systems have been installed at both the Pohang and Kwangyang Works to eliminate odors from the storage tanks at the coke making facilities. The steam is retrieved and pumped back into the coke making process, completely doing away with any foul smells.

Major R&D Accomplishments

Research Project

Development of technology using low-temperature plasma to eliminate both SOx and NOx

Development of technology using optical catalysts to eliminate trace amounts of organic pollutants

Development of a troubleshooting system that optimizes operation of electro-static precipitators (for sintering)

Development of technology that eliminates odors and VOC at room temperature





Execution Period	Sponsor
Jan. '00-Dec. '02	RIST
Jan. '00-Dec. '04	POSTECH
Apr. '99-Mar. '00	RIST
Aug. '99-Jul. '00	POSTECH



SOx Emission (Sm³/Hr)





Water Quality

POSCO's water quality preservation policy is multi-faceted. The company recycles water as much as possible in each unit process, treats wastewater and re-uses the treated water for different purposes. These efforts have significantly reduced the amount of water that must be brought in from outside sources. Moreover, effluent being discharged from the steelworks is treated very thoroughly so that no pollutants remain.

During 1999, POSCO consumed a total of 109 million tons of industrial water (156,000 tons/day at Pohang and 143,811 tons/day at Kwangyang). This means that 4.2 tons of water were required to produce each ton of steel products. Wastewater generated from 140 separate facilities is subjected to primary treatment at each facility, and at least 98% of this treated water is re-used as cooling water or for dust collection. Once the water has been used a second time, it is subjected to a thorough final treatment before being discharged. The final treatment facility at Kwangyang is Korea's first industrial water treatment plant with an activated carbon adsorption system (which is usually used to purify tap water). The chemical oxygen demand (COD) of effluent after final treatment at the Pohang Works is 13ppm (legal limit: 90ppm), while that at the Kwangyang Works is just 4.1ppm (legal limit: 70ppm). This means that the COD level is just 6-14% of what is allowed by Korean law.

In addition, much of the wastewater that has completed final treatment is re-used inside the steelworks, further lowering the risk of pollution in neighboring streams or the sea. POSCO re-uses 51,700 tons/day of effluent that have received final treatment for cleaning on-site roadways and suppressing flying dust in storage yards.









Major R&D Projects

Project Name

Monitoring changes in Kwangyang Works

Development of simult with chromium and w

Development of techn from wastewater used

Research on establishn to better manage wate



EFFLUENT COD CONCENTRATIONS (ppm)

POHANG WORKS KWANGYANG WORKS (Legal Limit for COD Pohang: 90mg/L, Kwangyang: 70mg/L)



POHANG WORKS KWANGYANG WORKS



	Period	Sponsor
the coastal ecosystem in the vicinity of the	Jan. '99-Mar. '00	RIST
aneous treatment for wastewater tainted astewater	May '99-Apr. '00	RIST
ology for eliminating nitrogen compounds in stainless steel production	Apr. '99-Mar. '00	RIST
nent of policy for industrial water recycling er resources in the 21st century	Mar. '00-Sept.'01	CCEJ



Waste Recycling

The Pohang and Kwangyang Works generated a combined 16 million tons of waste during 1999, and 15 million tons of this total were recycled either internally or externally. The remaining 1 million tons were treated to minimize environmental impact prior to being dumped in POSCO's own landfills or being incinerated.

Slag accounts for 75% of all the waste generated by the steelworks. This material, which contains no dangerous heavy metals, can be recycled as a cost-effective replacement for natural aggregate. All the blast furnace (BF) slag produced at POSCO is used in cement, in fertilizer or as an aggregate for road pavement, while at least 95% of the basic oxygen furnace (BOF) slag is re-used in sintering and steelmaking processes, cement or construction.

The dust and sludge that are generated in the various processes at the steelworks are reprocessed and mostly re-used in-house. The small amount of unusable material is put in landfills or incinerated.

POSCO is committed to being an environment-friendly operation and to using resources as efficiently as possible. By 2003, the company aims to be recycling at least 99% of all the waste generated during steel production. To this end, ongoing effort is focused on developing new uses for the waste, ways to reduce its generation, and technology for recycling more of it.

Major R&D Projects

Project	Period	Sponsors
Development of technology for using pulverized BF slag in ready-mixed concrete	Mar. '99-Feb. '01	RIST, Korea Institute of Construction Materials
Development of technology for using BF slag in railroad beds	Jan. '99-Feb. '01	RIST, Korea Railroad Research Institute
Test and evaluation of slag usage in composite materials for roadbeds	Jan. '00-Jun. '01	RIST, Pohang City
Development of offshore applications for BOF slag	Aug. '98-Jan. '01	RIST
Development of technology to reduce generation of waste refractories and to recycle them	Jan. '00-Dec. '00	RIST
Environmental impact assessment of byproducts from steelmaking	Jan. '99-Jun. '01	RIST



WASTE GENERATION AND TREATMENT (millions of tons/yr.)

4.058 4.26

Amount generated

BF slag BF slag BOF slag

SLAG RE-USAGE (millions of tons/yr.)

(LUMP) (WATER-COOLED)

Landfill or fertilizer

Road applications Cement

In-house recycling

3 // 22

SLAG GENERATION PROCESS



New facilities for reducing waste generation and increasing waste recycling

Dehydrator upgrade reduces volume of water containing sludge

		IMPROVEN	Prover		
PLANT	Improvement	WATER CONTENT (%)	SLUDGE REDUCTION (tons/yr.)	COMPLETION	
Pohang Steel Mill 1	Upgrade	40 → 25	+ 7,000	Jun. 2000	
Pohang Steel Mill 2	Upgrade	40 → 25	+ 20,000	Sept. 2000	
Pohang COREX	Addition	50 → 35	+ 20,000	Oct. 2000	

Increasing material recyclability by installing equipment for removing zinc from sludge

PLANT		PERCENTAGE TREATED (%)			CTART UR
		EXTERNALLY	INTERNALLY	LANDFILL	START-OP
Pohang Blast Furnaces 3, 4	Before	8	0	92	Eeb 2000
	After	56	44	0	160. 2000
Kwangyang Blast Furnaces 1, 2, 3	Before	10	28	62	Mar 2000
	After	18	82	0	iviai. 2000

Mid- & Long-term Recycling Goals and Implementation Strategies

Goals

Achieve a 99% recycling rate of waste materials and increase added value.

• Implementation Strategies

Build up a stable demand by diversifying applications.

Increase the volume of recycling while enhancing resource use efficiency. Remain committed to improving systems, developing new technology in-house and acquiring new technology from outside.

Implementation Approaches

Diversify uses for granulated slag. Develop technology for using pulverized slag in ready-mixed concrete.

Support technology for expanding the use of slag cement.

Reduce the sources for generating BOF slag and increase the amount of this material being recycled in-house. Reduce the generation volume by achieving technological self-sufficiency in pre-treating molten iron Develop new applications for slag composite roadbed material or offshore uses. Build a stable foundation for applications in harbor construction.

Build a stable foundation for recycling sludge dust.

Upgrade water discharge facilities to reduce the sludge volume generated and facilitate sludge usage. Increase external applications in such products as cement and fertilizer. Study ways to apply new processes for using both dust and sludge with iron content.

POSCO aims to continue its efforts to develop new uses for waste, reduce the waste volume generated and develop recycling technology for waste material to ensure environment-friendly operations, more efficiently use resources and achieve its target of 99% recyclability by 2003.











CO² Reduction

POSCO consumed 14.46 million TOE of energy to produce 26.5 million tons of steel products during 1999. This figure amounts to 8% of total Korean energy consumption during the year. Early on, the company installed energy-saving facilities, and ongoing campaigns are being run to reduce energy use internally. These efforts have resulted in steady improvements in energy efficiency: Only 82% of the energy resources used in 1975 was required in 1999 to produce a ton of steel at POSCO.

Major Energy-saving Equipment

Retrieval of Discharged Energy	Reduction and Continuation of Processes	Energy Management Systems
Coke Dry Quenching	Pulverized Coal Injection	Cogeneration
Sintering Discharge Heat Retrieval	Continuous Casting	Combined Cycle
Waste Heat Retrieval from Cooling Water in Hot Roll Reheating Furnace	Hot Direct Rolling, Hot Charged Rolling, Warm Charged Rolling	
Top Gas Recovery Turbine	Cold Roll Continuous Annealing	



AGGREGATE CO² REDUCTION TARGETS

Responding to Global Warming Pacts

Plan for Reducing CO2 Emissions

POSCO has joined a voluntary agreement among Korean companies to reduce energy use. The company plans to consume 5.9% less energy and generate 5.4% less carbon dioxide by 2003. To meet this target, facilities to recover discharged heat are being expanded; high-efficiency facilities are being brought in and systems for retrieving discharged heat are being expanded.

Domestic and international pacts concerning energy conservation and reduced carbon dioxide emissions are getting steadily stricter. In response, POSCO continues to discover additional areas where less energy can be used, and these efforts are linked to the existing plan on lowering energy consumption. Now, company officials expect to bring current consumption levels down at least 7.3% by 2004.

Major R&D Projects

Energy-related research is divided into three main categories: (1) technology for improving energy efficiency and recovering discharged energy, (2) technology for optimizing energy management, and (3) technology for recovering and utilizing carbon dioxide. POSCO, POSTECH and RIST jointly run a research committee on reducing carbon dioxide emissions. The committee is helping to address the global warming issue by seeking ways to develop technology for separating and using CO^2 as well as for suppressing CO^2 generation.

* Ton of Oil Equivalent (TOE) refers to the number of calories contained in one ton of oil. One TOE equals 10 million kilocalories, enough energy to generate 4,000 kilowatt-hours of electricity.





research (hundreds of millions of won)

R&D INVESTMENT RECORD







Ecosystem Monitoring

Environmental Studies in Steelworks Vicinity (air, water, offshore, soil) POSCO carefully studies the impact that its steelmaking operation has on the ecosystems of Kwangyang Bay, Youngil Bay and other areas near the steelworks. Periodic investigations are also made on the condition of the neighboring seas, and the data are used for drawing up mid- and long-range plans on environmental preservation. Monitoring of marine and fresh water quality is done at 30 different locations, and the studies cover 52 different categories,

including Chemical Oxygen Demand.

Assessment of Potential Risk Factors and Impact of Steelworks

The results of the studies around the steelworks are used to analyze how the operations impact the local environment and to assess potential risk factors. To date, these results have indicated that the marine ecosystem has remained relatively stable and that the steelworks have had minimal impact on the neighboring seas. POSCO will continue helping to preserve the local environment through basic research on any changes in the ecosystems on land and in the ocean.





Everyone in the present age is obliged to take part in managing the environment, for this is an investment in life for the future.

livelihoods for 20,000 employees and their families and plays an integral role in the local community. A continuous effort is made to protect the environment and build park-like settings for the steelworks so that people can enjoy a better quality of life. POSCO is simultaneously striving to leave Nature intact while promoting rapid industrial development and ensuring a richer future for all.

POSCO is more than simply a

manufacturer of steel, the basic material

for industry. The company provides

POSCO's future ambitions are unending. The company has always been aware of its obligation to serve the Korean nation through steelmaking. This sense of duty drives POSCO to pioneer the future as well

Environmental protection remains a key management strategy, and POSCO aims to maintain an environment-friendly operation in the new millennium. Between 2000 and 2004, a total of W3 trillion will be spent on the environmental sector, to include W1.2 trillion earmarked for new facilities for improving environmental protection performance. Over the next five years, the company's

expertise in steelmaking will be applied to ensure that the operation remains environment friendly. Importantly, POSCO's environment management efforts will help to raise awareness of the need for protecting Nature in other industries as well as in the general public.

Life Cycle Assessment Companies are under increasing pressure to improve their environmental performance scientifically and systematically and to determine the environmental impact of their products during the entire life cycle. POSCO is now applying Life Cycle Assessment (LCA) methods to improve its environmental preservation effort. LCA is a new approach to environmental management that covers the manufacture, use and disposal of a given product. POSCO participates in the LCA program for steel products that is being promoted by the International Iron and Steel Association (IISI).

This LCA project is uncovering the energy and raw materials consumed as well as the amount of pollution

generated for any given product. Completion of this project will enable a more objective and systematic analysis of individual processes, and systematic plans for performance improvement can then be implemented. **Advanced Molten Metal** Processing POSCO is operating a pilot plant for a fine-ore-based smelting reduction

process known as FINEX[®]. Basic design work and feasibility studies are now being carried out in an effort to commercialize the process by 2010. The pre-sintering and preparatory coking processes are eliminated, making FINEX a step more advanced than the COREX process. The technology represents an unprecedented breakthrough in blast furnace methods that have been in place for over one hundred years. Adopting FINEX[®] is expected to lower hot metal production costs and reduce pollutants such as dust and toxic gases to just one-tenth the amount generated by conventional blast furnaces.

Lighter Automobiles The UltraLight Steel AutoBody (ULSAB) project is an intensive study to show

ENVIRONMENTAL PROGRESS REPORT | 28

how steel can reduce the weight of a vehicle's body structure by (up to) 25% while improving its durability and strength. The lighter weight will improve fuel economy and help to reduce pollution.

POSCO has been involved in the ULSAB project from the early stages. The company hosts briefings and seminars on related technology and provides automakers with the needed technological support and materials for developing these improved automobile bodies.

Process Innovation

POSCO established the Process Innovation (PI) Team on December 31, 1998 to stay ahead of a fast-changing business environment and to embrace ebusiness amid the spread of information technology. This new unit marked the beginning of a full-scale management reform effort.

Process Innovation re-evaluates all business activities, starting with the fundamentals. Unnecessary elements are eliminated or altered so that the company operates optimal processes and systems in conformity with global standards.

POSCO's PI project began with the establishment of a Master Plan (January-October 1999). The implementation phase (November 1999-June 2000) is followed by a phase for ensuring that all processes are running smoothly (July-December 2001).

Part of the companywide PI effort is automated analysis of pollution levels and real-time management of environmental data. This will result in an integrated environmental data system that is transparent and freely accessible. Once the system is in place, employees, non-government interest groups, government organizations and research institutions will be able to receive the data on-line. This capability will greatly reduce the amount of paperwork and time now required and procedures will be simplified. Of course, the higher transparency will also raise the level of public trust in POSCO.



Corporate Profile	Brief History	Product Mix
		Product Mix
In just 30 years, POSCO has	April 1, 1968	
grown into a world-class	POSCO established.	
	April 1, 1970	
steelmaker capable of	Pohang Works Stage 1 Project begun.	HOT-ROLLED PRODUCTS PRODUCTS
turning out 28 million tons of	July 3, 1973	(35.7%) (32.5%)
	Pohang Works Stage 1 Project completed.	PLATE
product annually. Through	May 25, 1983	(11.8%) OTHER (7.8%)
its activities in the steel	Second Phase of Pohang Works Stage 4 Project completed.	Wire ROD STAINLESS Steel (7.5%) (4.7%)
business, the company has	March 5, 1985	
	Kwangyang Works Stage 1 Project begun.	
remained committed to	December 3, 1986	Production & Product Sales
contributing to Korea's	Pohang Institute of Technology(POSTECH) opened.	(millions of tons)
economic development.	March 27, 1987	25.5 25.7
POSCO is emerging as the	Research Institute of Industrial Science & Technology (RIST) established.	
world's most competitive	May 7, 1987	
steelmaker by constantly	Kwangyang Works Stage 1 Project completed.	
developing value-added	June 10, 1988	PRODUCED SOLD
	Company listed on stock market.	
products, rationalizing	October 2, 1992	
production and upgrading	Kwangyang Works Stage 4 Project completed.	IOTAI Sales & Net Income (billions of won)
facilities.	October 14, 1994	10,696
	POSCO ADRs listed on the New York Stock Exchange.	
	November 28, 1995	1,558
	COREX plant completed at Pohang Works.	TOTAL NET
		SALESSALES INCOME

Vital Statistics	
Establishment: 1968. 4. 1. Total Assets: ¥ 17.2 trillion Shareholders' Equity to Assets: 52.7% Employees: 19,485 '99 Sales: ¥10.7 trillion '99 Net Income: ¥1.56 trillion '99 Crude Steel Output: 26.5 million tons	

Overseas Branches



HEAD OFFICE

1. KOEDONG-DONG, NAM-GU, POHANG CITY KYONGSANGBUK-DO 790-600, KOREA TEL: 82-54-220-0114 Fax: 82-54-220-6000

SEOUL OFFICE

POSCO CENTER, 892, DAECHI-DONG, KANGNAM-GU, SEOUL 136-777, KOREA TEL: 82-2-3457-0114 Fax: 82-2-3457-1999

POHANG WORKS

5, Dongchon-dong, Nam-gu, Pohang CITY, KYONGSANGBUK-DO 790-360, KOREA TEL: 82-54-220-1440 Fax: 82-54-220-6000

KWANGYANG WORKS

700, Kumho-dong, Kwangyang City, Chollanam-do 540-090, Korea TEL: 82-61-790-0114 Fax: 82-61-790-7000

PUSAN OFFICE

10th Fl., Dongbang Bd., 25, Chungang-DONG-4-GA, CHUNG-GU, PUSAN 600-010, Korfa TEL: 82-51-441-5092 Fax: 82-51-441-5097

POSCO Токуо Branch 4тн Fl., POSCO Токуо Bd., 11-14, GINZA 5-СНОМЕ, СНИО-КИ, ТОКУО 104, TEL: 81-3-3546-1212 Fax: 81-3-3546-1215

POSCO EUROPE OFFICE

8TH FL., NORDSTERNHAUS. GEORG-GLOCK-STR. 14, DUESSELDORF 40474, GERMANY TEL: 49-211-435-300 Fax: 49-211-435-3099

POSCO BEIJING OFFICE

ROOM 1706, OFFICE TOWER 1 HANDERSON CENTER 18 JIAN GUO MEN NELAVE Beijing 100005, China TEL: 86-10-6518-2501~6 Fax: 86-10-6518-2509

POSCO HANOI OFFICE 7th Fl., Daeha Business Center 360 KIM MA STR., BA DINH DISTRICT Hanoi, Vietnam Tel: 84-4-831-7862~5 Fax: 84-4-831-7861

POSCO RIO OFFICE

RUO LAURO MULLER, 116, S/1603, Botafogo RIO DE JANEIRO, RJ22290, BRAZIL TEL: 55-21-541-3945 Fax: 55-21-542-2692



POSCO SINGAPORE OFFICE Mas Building, 10 Shenton Way #11-06/07 SINGAPORE 079117 TEL: 65-220-8223 Fax: 65-220-4213

POSCO INVESTMENT CO., LTD. [POSINVEST]

ROOM 5608, CENTRAL PLAZA 18 Harbour Road, Wanchai HONG KONG, CHINA TEL: 852-2802-7188 Fax: 852-2845-7737

POHANG STEEL AMERICA CORP., LTD. [POSAM] 300 TICE BOULEVARD, WOODCLIFF LAKE New Jersey 07675, USA

TEL: 1-201-782-9200 Fax: 1-201-782-9210 USS-POSCO INDUSTRIES [UPI]

P.O.Box 701, 900 Loveridge Roa PITTSBURG, CALIFORNIA 94565, USA TEL: 1-510-439-6023 Fax: 1-510-439-6032

KOBRASCO

AV. DANTE MICHELINEN S/N-PONTA DO TUBARAO-CAMBURI-VITORIA-E.S-BRAZIL TEL : 55-27-335-5984, 4864 Fax : 55-27-335-4761

POSVEN C.A.

ZONA INDUSTRIAL MATANZAS SECTOR PUNTA CUCHILLO, CIUDAD GUAYANA Edo Bolivar, Venezuela TEL: 58-86-52-2222 Fax: 58-86-52-1225

DALIAN POSCO-CFM COATED STEEL

Co., LTD. [PCCS] 1-4-5 Zhenpeng Industrial Town Dailan Economic & Technical DEVELOPMENT ZONE, CHINA TEL: 86-411-751-4685 Fax: 86-411-751-4710

ZHANGJIAGANG POHANG STAINLESS

STEEL CO., LTD. [ZPSS] NORTH OF YAN JIANG ROAD, LIAN XING CUN JINFENG TOWN, ZHANGJIAGANG JIANGSU PROVINCE, CHINA TEL: 86-520-855-3660 Fax:86-520-855-3680

SHUNDE POHANG COATED STEEL CO., LTD. [SHUNPO]

4-5, INDUSTRIAL & ECONOMIC DEVELOPMENT ZONE, BEIJIAO SHUNDE, GUANGDONG PROVINCE, CHINA TEL: 86-765-665-7870 Fax: 86-765-665-7760



POSVINA Co., LTD.

PHUOC LONG VILLAGE, THU DUC DISTRICT HO CHI MINH CITY, VIETNAM TEL: 84-8-896-1447 Fax: 84-8-896-6040

VSC-POSCO STEEL CORP. [VPS]

ANHUNG VILLAGE, HONGBANG DISTRICT HAIPHONG CITY, VIETNAM TEL: 84-31-85-0124, 0125 Fax: 84-31-85-0123

VIETNAM PIPE CORP.[VINAPIPE]

10, VAT CACH, ANHAI DISTRICT HAIPHONG CITY, VIETNAM TEL: 84-31-85-0116 Fax: 84-31-85-0114

THE SIAM UNITED STEEL CO., LTD. [SUS]

9, SOI G5, PAKORN SONGKROHRAJ ROAD HUAY PONG MUANG RAYONG 21150 THAILAND TEL : 6638-684-144, 155 FAX : 6638-685-133

P.T.POSNESIA STAINLESS STEEL

INDUSTRY JL. WAHAB AFFAN NO. 135, MEDAN Satria, Bekasi Barat, West Java, TEL: 62-21-844-3210 Fax: 62-21-889-4519

MYANMAR-POSCO STEEL CO., LTD. [MPSC]

No. 3 Trunk Road, Pynmabin Industrial Complex, Mingaladon Township YANGON, MYANMAR TEL: 95-1-703528 Fax: 95-1-635418

POSCHROME [PTY.] LTD.

SAMANCOR HOUSE, 88 MARSHALL ST. JOHANNESBURG 2000, SOUTH AFRICA TEL: 27-11-378-1788 Fax: 27-11-378-7196

POSCO Asia Co., Ltd. [POA] Room 5508, Central Plaza

18 HANBOUR ROAD WANCHAI Hong Kong, China Tel: 852-2827-8787/1437 Fax: 852-2827-5005/6006

POHANG STEEL AUSTRALIA PTY., LTD. [POSA]

SUITE C, LEVEL 49, GOVERNOR PHILIP TOWER 1 FARRER PLACE, SYDNEY New South Wales 2000, Australia Tel: 61-2-9241-2345 Fax: 61-2-9241-2001