LEO PAPER GROUP

Green Harmony®

Environmental Report 2009

Contents

Corporate Profile

Leo Paper Group (hereinafter referred to Leo) was established in Hong Kong in 1982. Since its establishment, Leo has invested in building factories in the Guangdong Province, including the cities of Nanhai and Heshan City, where Heshan Astros, our largest Leo factory, is located. Currently, the Heshan plant covers an area of 667 thousand m^2 with approximately 20,000 workers. With advanced production technologies and extensive production capabilities, Leo offers professional, one-stop-shop services including pre-press, printing and production, and secondary processing. Our products include case-bound books, childrens' board books, pop-up books, book plus, educational kits, stationery sets, gifts and premiums, game sets, packaging products, and gift bags. The majority of these products are exported to the U.K., the U.S., Australia and Europe.

Leo has set a high standard for our decision making principles. Using the advantages and strengths of the local and overseas scientific community, as well as advanced technology, Leo has developed rapidly and grown from a factory with only a few production lines into one of the largest printing manufacturers in Asia, earning the Group an outstanding reputation in the printing industry.

In pursuing economic efficiency, Leo also focuses on the protection of the environment, and emphasizes the importance of sustainable development. Since we began building factories, Leo continuously increases its environmental protection input. As early as 2001, in order to achieve ISO14001 certification for its Environmental Management System, Leo established the first phase of the water treatment plant and waste treatment center. At the same time Leo introduced advanced environmentally friendly machines and equipment and environmentally friendly materials, installed an exhaust dust collection system, carried out R&D on environmentally friendly materials and techniques, etc. We set both production and environment sustainability as the common development goals of our company, and strictly enforce international environmental standards.

Today, under the leadership of Mr. Samuel Leung, the Chairman of the Group, Leo has achieved remarkable results in the development of the protection of the environment. Leo not only achieved multiple certifications, including ISO14001, Green-Mark, FSC-COC, PEFC-COC, and ISO14064 for its environmental management systems, but also established substantial measures for environmental protection. We have taken the lead in launching and implementing cleaner production programs, and formulating multi-level pollution prevention and control measures. Leo took part in the Cleaner Production Pilot Scheme of Hong Kong in 2007, and won the Grand Award of the HangSeng Pearl River Delta Environmental Award in 2008. In early 2009, Leo was awarded the Grand Award of the Hong Kong Awards for Industries – Environmental Performance, and in November 2009, Leo was named as Cleaner Production Enterprise in Guangdong Province.

To achieve harmony and common prosperity of society and the global environment, Leo has set zero pollution, zero emissions and zero energy waste as the ultimate goal, striving to create economic benefits for society and achieve the dream of creating a happy living environment!

Chairman Statement

Chairman of Board
Mr. Samuel Leung

The creation of a green and harmonious society has become the theme of developed countries and businesses. Enterprises are now focused on carrying out sustainable production and protecting the living environment of man. To accomplish this great and sacred task, we need the common commitment and tireless efforts from both stakeholders and our business partners.

Since its establishment in 1982, after 28 years of steady business, Leo is now one of the largest printing groups providing a one-stop service solution. Upholding the vision of "acknowledging the responsibility of environmental protection to build a greener future," Leo has carried out different measures to reinforce the direction of environmental protection and fulfill our commitment to society and the environmentl. Leo also instills in Leonians the correct values of "eliminating waste, making effective use of resources and cherishing the environment". Here, I hope Leo can be a role model, starting with ourselves, and influence our colleagues and business partners by actions that demonstrate the determination and commitment to environmental protection of Leo and every Leonian.

We also solemnly promise Leonians will strive to continuously create a better living environment, and contribute our efforts for a Green Harmony world.

Leo Environmental Philosophy

Creating a New Green Harmony World ®

The Environmental Guiding Principle at Leo

Since the certification of the ISO14001 Environmental Management System in 2001, there have been four phases of significant development, from acknowledging the responsibility of environmental protection, to Green Harmony which the Leo now strives for.

Green Harmony® is our blueprint. Leo's environmental path has been created with this unique philosophy.

2001

"Acknowledging the responsibility of environmental protection to build a greener future"

2003

"LEO-E-5R", the 5R Environmental Management Model of Leo striving to diminish the environmental impact of waste by 5R

2007

Introducing the concept of a "Zero Waste Factory" striving for the ultimate goal of zero emission with "zero" as the main philosophy

2009

Creating the blueprint of "Green Harmony" The environmental initiatives of the Group are led by 9 management entities and 9 environmental innovation initiatives

Environmental Policy

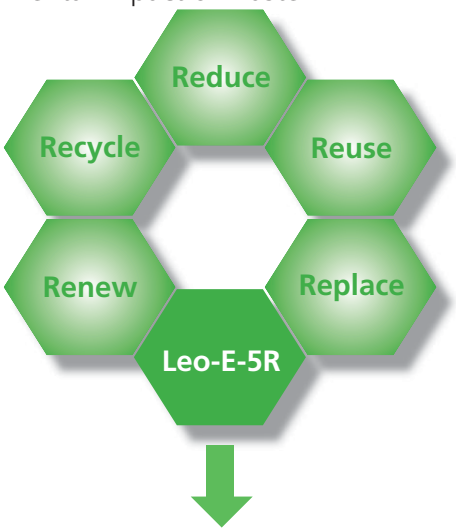
"Acknowledging the responsibility of environmental protection to build a greener future"

- Store and use flammable, highly explosive, erosive or toxic chemicals items in a safe and proper manner in order to prevent damage to the environment;
- Reduce the discharge of waste and minimize the impact inflicted on the environment through recycling and reusing;
- Pursue continuous improvements to internal environmental conditions to upgrade environmental performance;
- Save energy and resources. Redesign manufacturing workflow and processes to keep energy and resource consumption to a minimum;
- Adhere to laws and regulations pertaining to the environment, as well as requirements laid out by relevant parties;
- Roll out promotional and educational activities on environmental protection to raise the awareness throughout the company;
- Publicize environmental policies and measures both internally and externally;
- Protecting the Earth's resources and eliminating waste;
- Developing and promoting environmental products;
- Introducing environmental materials, technologies and equipment for green production;
- Establishing an environmental protection culture and fostering green Leonians with both education and practice;
- Striving to be the pioneer and role model of the industry and influence our partners on green practices.

Environmental "5R"

Since the establishment of the environmental management system in 2001, we have upheld the Environmental 5R as the working principle and implemented 5R classification on all wastes identified by the Leo.

5R Objective: Enhance waste management at the source origin, diminish the generation of waste, handle waste effectively and reduce the environmental impact of waste.



Definition of Environmental 5R		
	I	**Recycle:** Recycle non-reusable waste
	II	**Reduce:** Reduce the amount of waste through technologies, management, and process control, etc.
	III	**Reuse:** Reduce the consumption of disposable product, and reuse production waste
	IV	**Replace:** Making use of environmental raw materials, and eliminating use of non-environmental raw materials
	V	**Renew:** Transform waste and change its form or structure for other usages

The implementation of 5R on all waste procedures is reviewed annually, with a 5R Action Plan formulated each year. The model of PDCA is applied to continuously reduce the waste and help us reach our goal to be a zero waste factory.

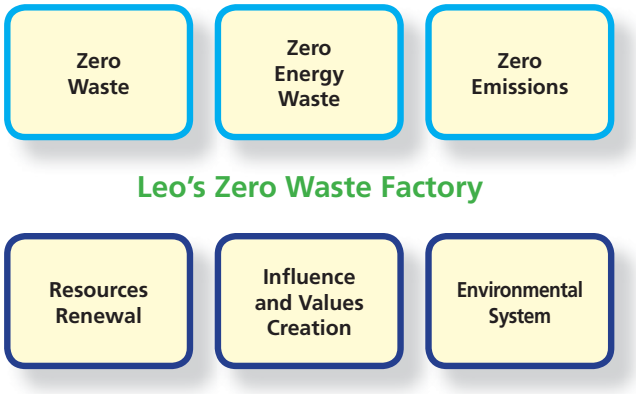
Zero Waste Factory

Zero waste, zero energy waste, zero emissions, resources renewal, influences and values creation, and the emissions reduction system

We have formulated and introduced the philosophy of a "Zero Waste Factory". From the beginning of the product design, process the zero-waste concept is applied and thus promotes green production in every process thereafter. It helps avoid waste generation throughout the supply chain so as to achieve our aim of zero loss, zero waste, zero emissions and zero energy waste. Based on this, we encourage our staff, suppliers, clients and the community to implement the "zero" concept. There is a blueprint in the minds of Leonians, a blueprint for a blue sea and sky.

In 2009, we focused on the six aspects of a zero waste factory, including zero waste, zero energy waste, zero emissions, resources renewal, influences and values creation, and an emissions reduction system. 25 "zero" projects have been implemented and monitored for their progress and effectiveness over the year.

Zero waste factory, green plant, green home — the vision we continuously striving for!



Achievement of Zero Waste Factory in Year 2009:

- Saved 1,534 tons of raw materials;
- Reduced or effectively reused 421.98 tons of dangerous waste;
- Reduced or effectively 30.29 tons of general waste.

Green Harmony® Management Model

Acting as a role model, contributing to sustainable development, creating a new world of Green Harmony®! Under this Green Harmony® vision and mission, the implementation of our environmental initiatives can be classified into 9 environmental entities and 9 environmental innovation initiatives.

The 9 environmental entities

1. Environmental Aspects Management
2. Energy Management
3. Wastewater Management
4. Resources Utilization
5. Waste Management
6. Air Emissions Control
7. Noise Control
8. Chemicals Management
9. Carbon Emission Management

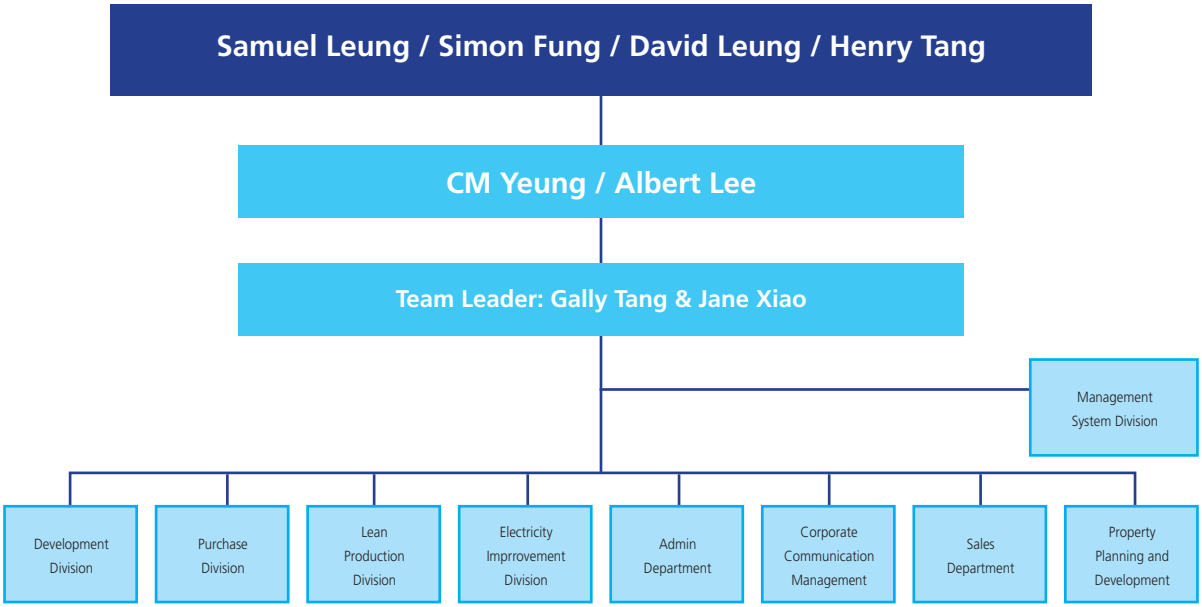
Management programmes for the 9 environmental entities and 9 environmental innovation initiatives are formulated each year. We review the management programmes each month for their progress and effectiveness, so as to ensure continuous improvement.

The 9 Environmental Innovation initiatives

1. Green Architecture: enrich construction projects with environmental elements;
2. Green Production: green production technology, zero waste, etc;
3. Green Transportation/Logistics: create greener processes along the supply chain;
4. Green Office: green IT, paperless office, etc;
5. Green Procurement: purchase environmentally friendly raw materials, accessories and equipment;
6. Green Products: develop FSC, PEFC and other products with environmental labels;
7. Green Living: planting, adopting a healthy living style;
8. Green Energy: actively apply cleaner energy, energy reuse, and renewable energy;
9. Environmental Research and Development: carry out, promote and apply the research and development results of the latest environmental materials and technologies

Green Harmony® Steering Committee

In early 2010, in order to make effective use of environmental resources, the Steering Committee of "Green Harmony" was established. The new committee replaces the functions of different environmental committees to coordinate various environmental tasks and environmental management plans, so as to immerse environmental initiatives into every process at Leo.



Functions of the Green Harmony® Steering Committee:

- Coordinating environmental management, formulating the direction of environmental protection, providing necessary resources for executing and controlling the environmental management system, carrying out routine management review of the environmental programmes;
- Being responsible for the overall development, establishment, implementation, maintenance and management of the environmental management system, reporting to the board of directors, promoting the direction of environmental protection, and continuously improving the environmental management system;
- Planning, establishing, implementing and maintaining the environmental management system; organizing training on integrated direction, environmental awareness, etc for all Leonians; being responsible for collecting information about laws and regulations relating to environmental management, and making decisions together with related parties;.
- Drafting environmental targets, directions and management plan for review by the management committee; carrying out routine review of environmental programmes, following up on environmental targets and their attainment; reporting to the board of directors to review results and provide suggestions for improvement.

Leo Environmental Entities

Fully utilize resources, cherish the environment

Environmental Management System

In order to manage environmental issues systematically and to improve different aspects of our environmental performances, we have developed and implemented various environmental management systems since the establishment of the ISO 14001 Management System 2001. As a result of these systems, we have been awarded with various certificates such as FSC-COC, Green-Mark, PEFC-COC, Cleaner Production and ISO14064. We are now implementing the PAS 2050 Product Carbon Footprint Management System.

ISO 14001

Environmental Management System
Certification obtained in 2001, environmental aspects identification and control

FSC-COC

FSC-COC certified products
Certification obtained in 2007, allowing us to offer FSC products

Green-Mark

The Hong Kong Green Mark Certification Scheme
Passed the on-site auditing of the Federation of Hong Kong Industries in 2008

PAS 2050

Product Carbon Footprint
Implemented in 2009

ISO 14064

Greenhouse Gas Accounting & Reporting System
Certification obtained in 2009, corporate carbon footprint accounting & reporting

PEFC-COC

Programme for the Endorsement of Forest Certification Schemes
Certification obtained in 2009, allowing us to offer PEFC products

Cleaner Production

Guangdong Cleaner Production Enterprises
Passed the audit by government experts in 2009, cleaner production technologies are fully implemented

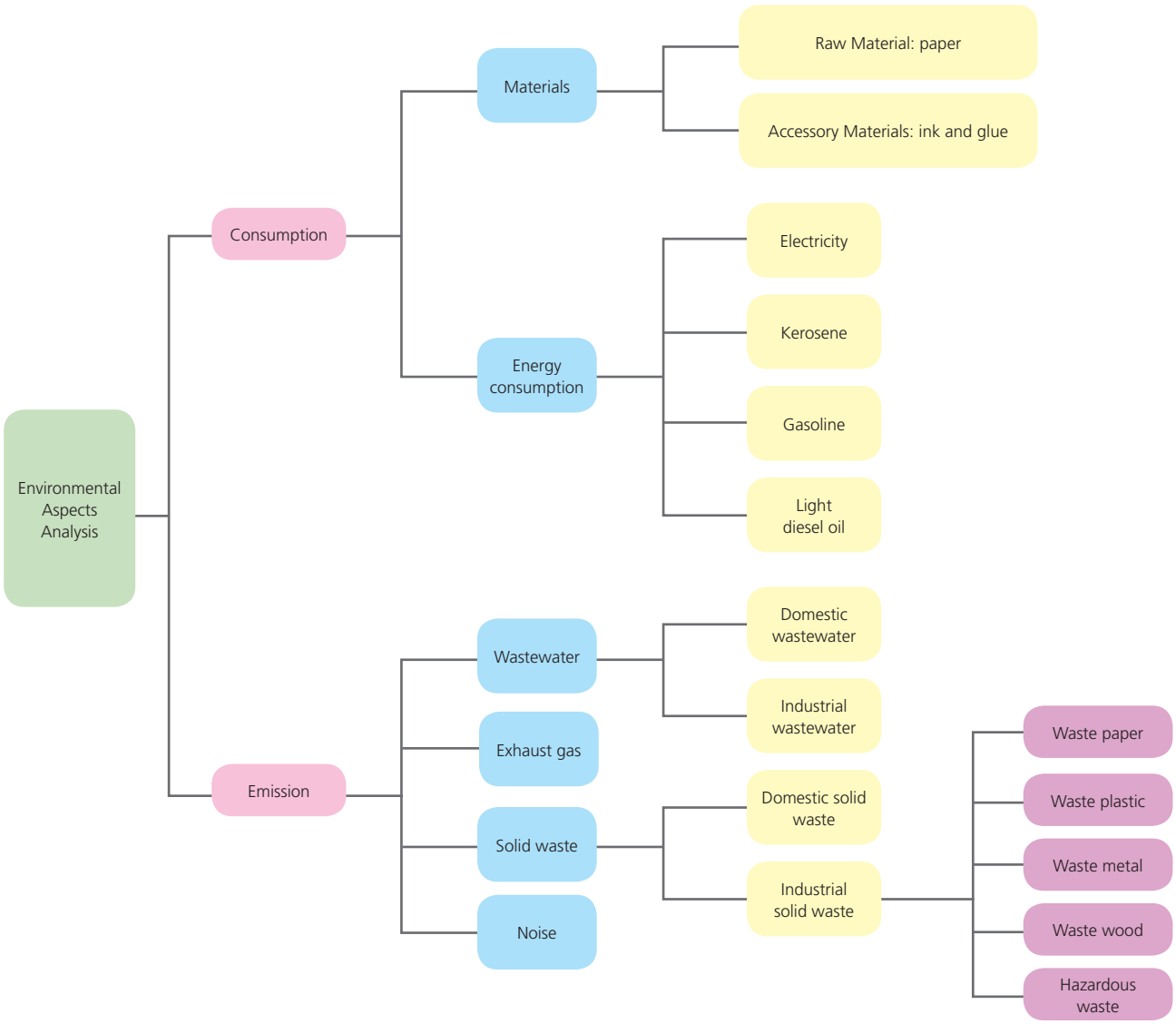
Leo has established a dedicated environmental management team responsible for the implementation and maintenance of the Environmental Management System. It is responsible for Leo's efforts to track and study the latest external environmental management models and management techniques to ensure Leo's role as a pioneer in environmental protection in the industry. Through the various management systems, the environmental management team implements and monitors the 8 environmental entities of Green Harmony®. The Environmental management team is also a permanent member of the Green Harmony Steering Committee.

Environmental Aspects Management

As a company that provides comprehensive services including plate making, printing, binding, and paper bags manufacturing, it is inevitable that the input of raw materials, the energy consumption during production and the generation of pollutants throughout the production process would have effects on the environment. These factors and their generation can be grouped into four major aspects.

By identifying and analyzing each environmental aspect, we can formulate effective control and preventive measures and monitor their effectiveness.

Analysis of aspects affecting the environment

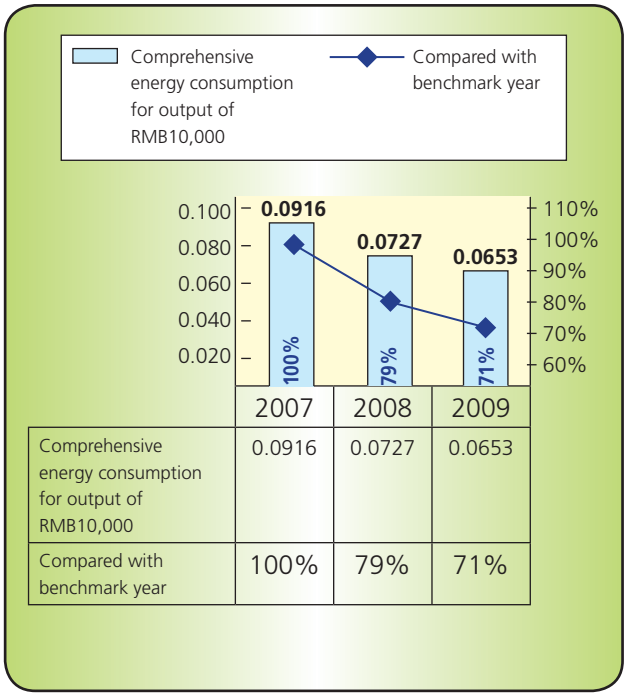


Energy Management

Energy shortage has become a major concern in this day and age. The optimized utilization of resources and the minimization of energy consumption have become major issues for the development of enterprises and the economy. Leo not only carries out environmental management, but also pays much attention to energy saving, aiming to yield maximum economic benefits using minimal energy so as to create wealth in the society and at the same time lower the consumption of energy of the society.

Since the introduction of the Energy Management System in 2005, Leo has established an Energy Saving Taskforce, which consists of a Research Team, a Monitoring Team and a Data Analysis Team, for energy saving technology and procedure improvement. Comprehensive energy technology improvement, statistics compilation and supervision and management work are done on the energy consumption of factories through the functions of the taskforce. In accordance with the government's energy saving requirements, the energy saving target for Leo during the Eleventh Five-Year Plan (2006—2010) period was 1900 tons of standard coal. However, Leo has already saved 4940 tons of standard coal during the 2 years from 2006 to 2007, meeting the government's energy-saving target ahead of schedule.

The energy consumption per unit of output value in 2008 decreased by 21% compared with 2007, and decreased by 29% in 2009 compared with 2007.



	2007	2008	2009
Comprehensive energy consumption for output of RMB10,000	0.0916	0.0727	0.0653
Compared with benchmark year	100%	79%	71%

1. Energy-saving taskforce meeting

2. Corporate energy-saving meeting

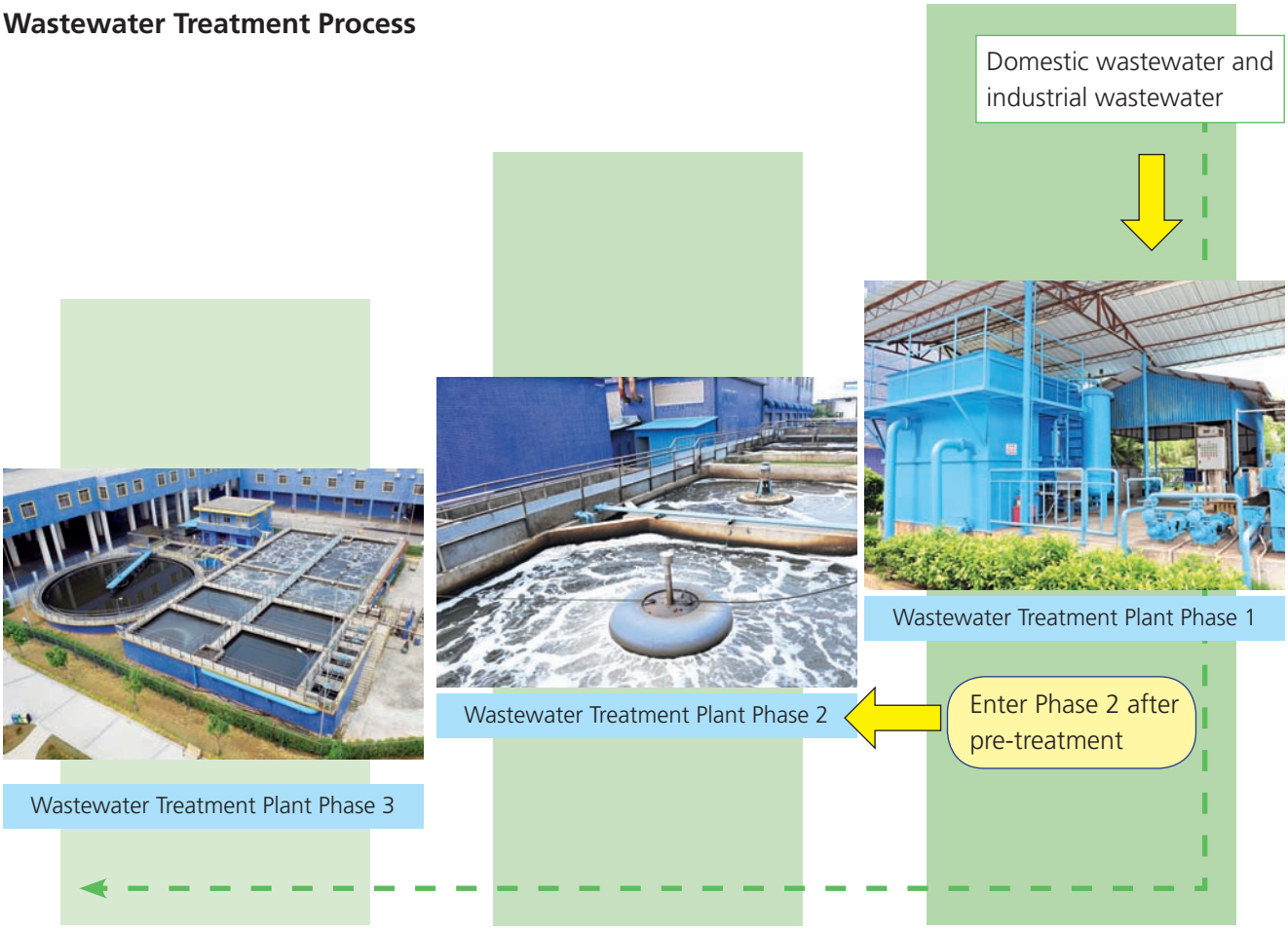
3. Government officials and experts conduct energy saving audit on Leo

4. Presentation of annual energy-saving awards

Wastewater Management

Leo's environmental policy is "Acknowledging the responsibility of environmental protection, and to build a greener future". In order to fulfill the policy, Leo has invested more than RMB 80 million in the construction project of a wastewater treatment plant. At present, the Astros factory has completed phase 1, phase 2 and phase 3 of the wastewater treatment plant, with a capacity of 7500m³/d. The plant is now purifying 5400 m³/d of waste water per day. The quality of the treated water discharged meets both the 1st Class Standard of the Guangdong Province Regulation on the Maximum Amount of Pollutants in Wastewater Discharging" (GB44/26-2001), as well as the Standard B of Class 1 of the "Pollutants Emission Standards for Sewage Water Treatment Plants in Cities and Towns" (GB18918-2002).

Wastewater Treatment Process



	Wastewater Treatment Plant Phase 1	Wastewater Treatment Plant Phase 2	Wastewater Treatment Plant Phase 3
Maxium Treatment Capacity	600 m³ / d	1500 m³ / d	6000 m³ / d

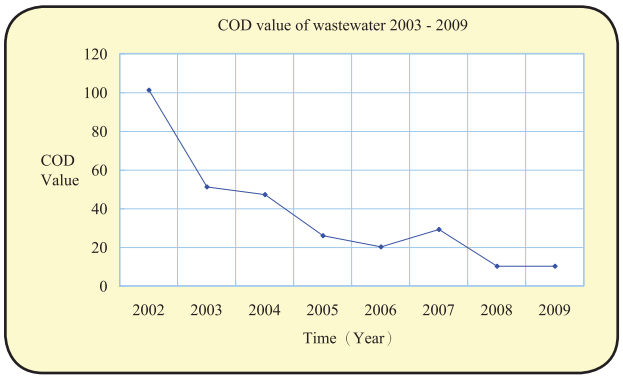
Leo has considered its 5-10 years development plan when constructing the wastewater treatment plant.

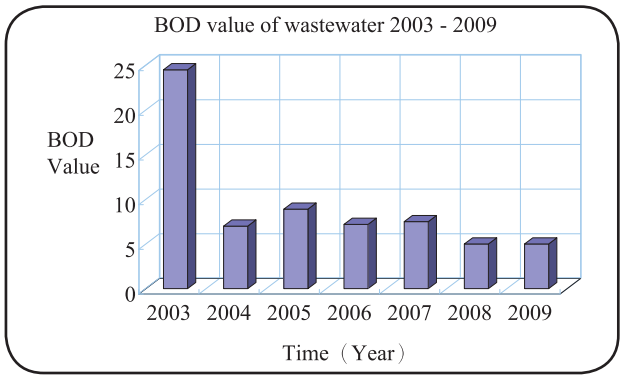
■ Effective quality compliance

All the wastewater generated by the Heshan facility is treated by our wastewater treatment system before discharging. The discharging standard adopted by Leo is the stricter one between the 1st Class Standard of Guangdong Province Regulations on the Maximum Amount of Pollutants in Wastewater and the Standard B of Class 1 of the "Pollutants Emission Standards for Sewage Water Processing Plants in Cities and Towns".

Major discharge factors	Maximum Amount of Pollutants in Waste water	Discharge standard of "Pollutants Emission Standards for Sewage Water Processing Plants in Cities and Towns"	The Company's discharging in 2009	Quality compliance
pH value	6~9	6~9	7.06	Complied with standard
COD	40	60	<10	Complied with standard
BOD	20	20	<5	Complied with standard
Ammonia	10	8(15)	0.57	Complied with standard
Total Phosphorus	0.5	1.5(1)	0.32	Complied with standard

■ Trend of the Monitored Discharge Concentration of the Critical Factors of Treated Effluent (mg/m³)



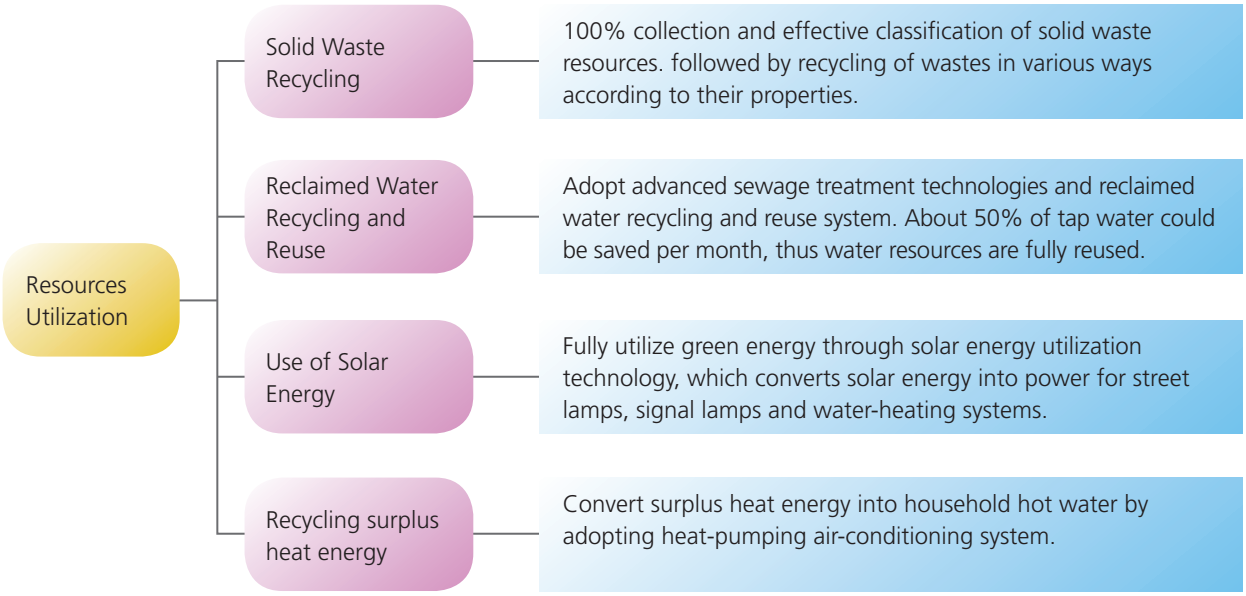


Through the analysis of the monitoring data, it is noted that during the 7 years from 2003 to 2009, the COD value and BOD value of the wastewater discharged by our Heshan factories showed a significant decreasing trend, and are already significantly lower than the limits of the strictest national and local standards.

Resources Utilization

Control of resources utilization is a long-term national strategic policy on economic and social development as well as a major policy of technical development. It has a significant role in raising the resources utilization rate, developing recycling economy and building a resources-saving society. In order to meet the country's preferential policies regarding resources utilization, to facilitate the reasonable use and saving of resources and to achieve Leo's goal of sustainable growth in revenue, we have implemented a series of effective measures to recycle reusable resources and reasonably treat non-reusable resources so as to maximize resources utilization and carry out harmless treatment.

Leo Resources Utilization Map



The measures include:

1. Establish standardized waste treatment procedures to clearly define the recycling and management process of wastes.

2. Standard classification of waste, 100% recycling of waste papers, metal, plastic, wood and hazardous wastes.

3. All types of waste are processed by qualified recyclers. Standard management and annual reassessment of recyclers.

Waste Management

Leo has launched a series of effective resource management measures. In order to utilize resources and create efficiency, Leo classifies factory wastes into general waste, strictly-controlled waste and hazardous waste. General waste is further classified into waste paper, waste metal, waste plastic, waste wood, etc according to the nature of the components of the waste. We aim at producing "zero waste" and "zero emissions", striving to minimize the ultimate handling volume of waste generated from operation. We did so by adopting the 5R and "zero waste" management mode, by maximizing resources utilization, and by detoxifying of waste.

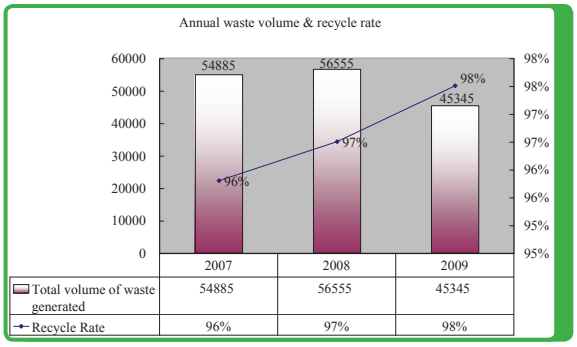
Using 2007 as the benchmark year, the total volume in 2009 decreased by 9450 tons or 17% compared with 2007. At present, over 98% of Leo's total waste by weight is recycled. Only 2% of the waste has no value and is handled by professional detoxified incineration or buried in landfills.

In 2009, we aimed to reduce 10% of the unit waste generation volume, and we achieved an actual reduction of 13%.

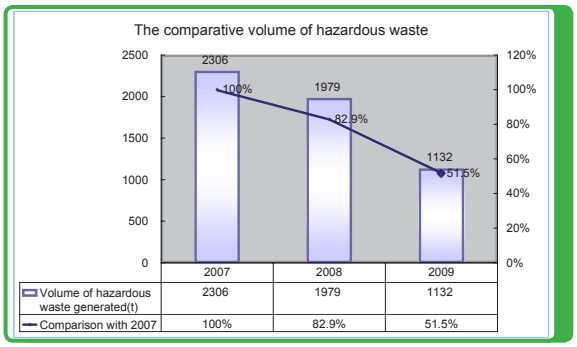
The volume of hazardous waste per unit of output in 2009 was 51.5% of that in 2007, which is a decrease of 48.5%.

Please refer to the following tables for details:
Note: Recycle Rate=Recyclable Waste÷(Volume of Recyclable Waste+Volume of Non-recyclable Waste)

1) Annual waste volume & recycle rate



2) Total volume of hazardous waste generated,



Air Emissions Control

Leo upholds the "people-oriented" philosophy, always adhering to the principle of controlling air emission in the production process. Air emission control measures have been put in force in main areas where waste gas is generated, for example: printing, flocking, silk screen printing and fuel forklift areas, and has achieved significant improvements.

Control of powder and dust from printing

To collect the excessive spray powder used on the printouts in the printing room and to ensure the cleanliness of the environment and the air inside and outside the machine room, Leo has set up a water-curtain style spray powder collection room outside the machine room in order to ensure that the air expelled is clean. This collection room is used for the more than 20 printing machines in the machine room of the main factory and the more than 15 printing machines on the second floor of phase 5.

A ventilation tube was installed in the paper inlet of each printing machine, pumping the excessive spray powder to the powder room. After passing through two water curtains and a filter separating the spray powder and the air, the air is at last expelled outside. The filters are washed or changed regularly to prevent excessive sticking of spray powder. Water from the water curtain is recycled and refilled internally.

Each printing powder and dust collector can collect an average of about 0.455kg of powder and dust per day. The pollution of the air by powder and dust is thus greatly reduced.

Collectors for exhaust gas generated from silk screen printing

Fully-automatic drying ovens for silk screen printing machines are being installed in silk screen printing factories, aiming to change from the previously unorganized discharge to an organized discharge through the exhaust vent of the drying ovens. This measure could significantly reduce the pollution of organic gases on the environment.

Powder and dust control in the flocking room

All the exhaust gas generated by Leo is expelled after passing through the treatment facilities. Within the facilities the emissions must meet certain standards. The cooking fumes must comply with the "Emissions Standard of Cooking Fumes (Trial)", while the emission of other exhaust gas must comply with the 2nd Class Standard (Second Time Period) of the "Emissions Limits of Air Pollutants" (DB44/27 – 2001).

	Black Smoke	Benzene	Toluene	Xylene	Particles	Ammonia
Standard	Class 1	0.4	2.4	1.2	1	2
2009	Class 1	0.3	0.7	0.8	0.076~0.171	<0.03

Noise Control

Major sources of noise

Noises at the factory boundaries mainly come from vehicles on the main roads nearby and the property construction works, while noise inside the factories mainly comes from the major production machines, ventilation systems and electricity generation systems.

Noises at factory boundaries [Unit: dB(A)]

Checkpoint	Day		Night	
	Noise intensity	Execution Standard	Noise intensity	Execution Standard
East of the factories	45.1	60	45	50
South of the factories	57.5	60	47.2	50
West of the factories	53.9	60	46.9	50
North of the factories	58.7	60	49.7	50

Class II of the "Standard of noise at boundary of industrial enterprises" (GB12348-90) is executed for noise level at factory boundaries.

Existing noise control measures

- ✓ Work on worksites that generate loud noise are forbidden in the evening
- ✓ No honking of car horns
- ✓ All staff members stop group activities or speaking loudly after 11:00pm
- ✓ Noise reduction – lowering noise in factories, installing noise reduction devices

Noise inside the factories [Unit: dB(A)]

(Exposure time is 8 hours)

Equipments tested	Noise intensity	Occupational health limit
Printing machines	80.7	85
Power generators	78.3	85
Die-cut machines	81.5	85
Punching machines	81.4	85
Enveloping machines	79.2	85
Hot stamping machines	79.6	85
Folding machines	80.3	85
Binding machines	80.5	85
Collating machines	80.2	85
Varnishing machines	78.6	85
Waste paper room	79.4	85

Equipment testing is based on GBZ12002 "Sanitary standard for industrial enterprise design"

Noise control and protection

■ Production workshops
- ✓ Low-noise equipment will be given priority in purchasing
- ✓ Installing noise-insulating box
- ✓ Earplugs shall be worn in working area with noise over 80 dB

■ Power generation room
- ✓ Using low noise and low vibration models
- ✓ Placing power generators in closed rooms
- ✓ Carry out vibration-cancellation on power generators

■ Ventilation system
- ✓ Using low-noise fans
- ✓ Placing fans in remote areas, carry out vibration-cancellation and install soft connectors on the air inlet and outlet of the fan

Management of Chemicals

Leo's Policy on the reduction of hazardous substances is "Control at the source, prevention in the process, and green printing". In the processes of the procurement, production, manufacturing and transport of products and the provision of services, QC 080000 Hazardous Substances Process Management System was adopted to reduce hazardous substances, to continually reduce the burden on the environment and the threat on the health of human bodies, and to ensure that the processing of products meets the environmental requirements of clients and regulations. At the same time, we carry out activities on the reduction of hazardous substances with suppliers who have good environmental performances.

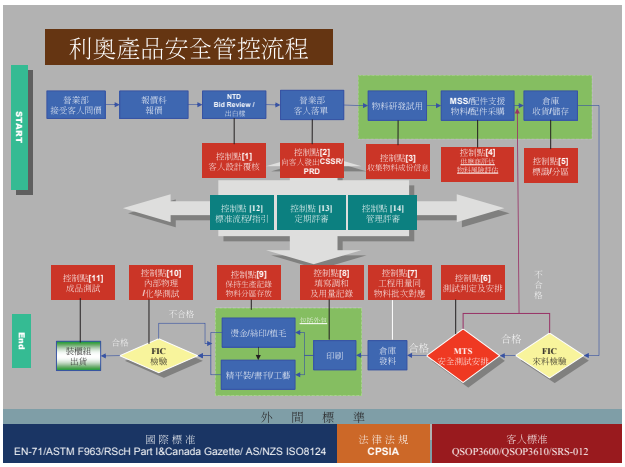
In 2009, Leo fully adopted the QC 080000 Hazardous Substances Process Management System, implemented and improved the existing green procurement system and formulated the "Leo Green Procurement Technology Standard". For the monitoring of substances, we adopted a 3-class policy: Class 1- Forbidden, Class 2 Limited use and Class 3 – Monitored use.

Class 1 (Forbidden): The substance and its usage is forbidden

Class 2 (Limited use): The substance can be used only for a defined period. The use of substance in raw materials beyond the defined period are forbidden. When the period expires, the substance is classified as Class 1.

Class 3 (Monitored use): Although there is currently no confirmed defined period and no requirement for the reduction in the amount used and the use of the substance, the substance will be classified as Class 2 when there are replacement parts, materials or technologies.

Leo's Hazardous Substance Management Chart



Summary table of regulations in the management of chemicals

- ASTM F963 08
- CPSIA 2008
- REACH
- EN 71
- ISO 8124
- Canadian C.R.C. 931
- RoHS
- DMF (Dimethyl Fumarate)
- CONEG(TPCH) & 94/62/EC

Serial No.	Substance
1	Heavy metals
2	Organochlorine compounds
3	Organic bromine compounds
4	Specific phthalates
5	SVHC and restricted substances announced by ECHA
6	Organic tin compounds
7	Abestos
8	Azo compounds

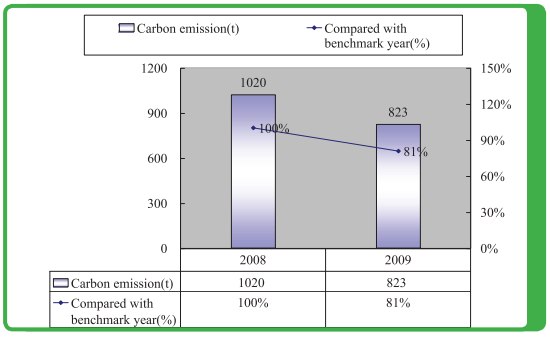
Carbon Emission Management

Leo is aware of the profound impact of climate changes on human beings and the environment. In response to the international standards of the United Nations Framework Convention on Climate Change and the Kyoto Protocol, and in order to fulfill corporate social responsibilities, Leo has conducted greenhouse gases emission inventory checks in our Hong Kong office and Heshan facility according to the ISO14064 standard of the International Organization for Standardization so as to understand and manage the emission of greenhouse gases. The voluntary greenhouse gas reduction scheme is further promoted based on the results of the inventory check, contributing to the reduction of greenhouse gases.

Major campaigns launched include:

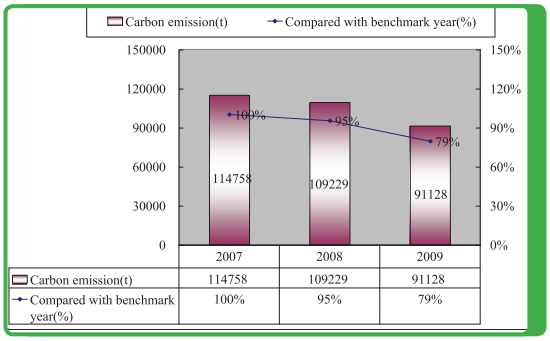
- Company greenhouse gas emission inventory check
- Collection of greenhouse gas emission evidences
- Determination of rooms for greenhouse gas reduction within factory area
- Formulation of greenhouse gas reduction plan or compensation plan
- Submission of greenhouse gas report
- Launching certification audit

Carbon emission of Hong Kong office 2008-2009

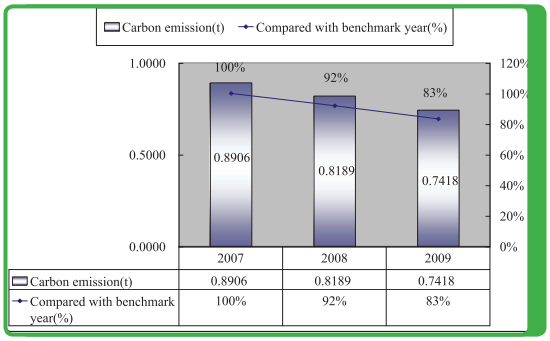


The emission in 2009 was 197 tons less than that in 2008, representing a reduction rate of 19%.

Carbon emission volume of Heshan Astros Plant 2007-2009



Compared to 2007, there was a decrease of 23630 tons of carbon in 2009, representing a decrease of 21%.



The unit equivalent carbon emission volume in 2009 was decreased by 0.1488 tons compared with that in 2007, representing a decrease of 17%.

The purchased electricity of the company contributed most of equivalent carbon emission. It accounted for 91.6% of the total equivalent carbon emission in 2007, 92.6% in 2008 and 92.4% in 2009. It is Leo's major goal for carbon emission reduction monitoring and management.

CO_2 Reduction

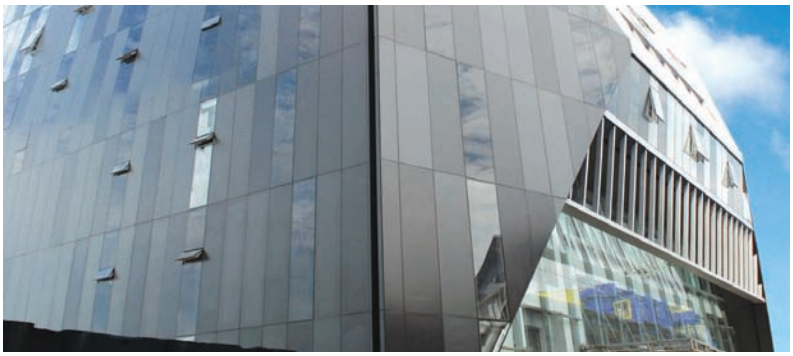
Leo Green Harmony® Innovation

We are striving towards Green Harmony® & Innovation

Green Architecture

Green Architecture minimizes the use of resources during the whole life cycle of construction, (energy-saving, electricity-saving, water-saving, materials-saving, fully utilizing natural light, ventilation and environmental-friendly materials), protects the environment and reduces pollution, and provides people with healthy and highly-effective spaces and buildings that exist in harmony with nature.

Green designs of factories. Environmental-friendly elements are incorporated in the design of new factories.



Environmental Research Building

Energy-saving demonstrative project - Astros Vocational and School

Central vacuum pump system of factories

Leo has replaced the individual vacuum pump of each machine with a large centralized vacuum pump for "vacuuming" through pipes, which saves electricity by 60%.

Replacing T8 fluoresent tubes with T5 fluorescent tubes

The luminosity of both T8 & T5 is similar, but T5 fluoresent tubes consume 22% less electricity than T8 fluoresent tubes. Over 25000 fluoresent tubes at the factory were replaced, significantly reducing power consumption.

Green Production

Automatic Computer-to-plate system

With CTP "Computer to plate" practice replacing the traditional "Computer-to-film", practice, water pollution has been minimized.

Automatic blanket washing device

Leo has installed automatic blanket washing devices on offset printing presses, and uses low-VOC washing solutions for blanket washing. The system has raised production efficiency, improved the working environment and reduced 25% of the consumption of blanket washing solutions. The consumption volume of blanket washing solutions was significantly reduced at the source, reducing the VOC generated during blanket washing, and thus significantly improving the work environment.

Waterless printing

Waterless printing technology can minimize the generation of waste liquid. Specially-made plates, special ink and temperature-control are in place for waterless printing, and no water is used throughout the printing process.

Activated carbon absorption system for VOC

Leo has reduced the concentration of VOC generated in the silk screen printing workshop by using the activated carbon, which helps improve air quality.

Green Logistics/Transportation

Cooperating with suppliers, to build new production bases nearby for accessories/ parts

We have cooperated with carton box suppliers to build a new production plant in the area surrounding our main manufacturing plant, thus shortening the transportation distance from 200km to 30km. This initiative significantly reduces energy consumption, carbon emissions, as well as time consumption of the logistics process.

Innovation in the cartons for product transportation

We worked together with our suppliers and clients to change paper cartons boxes from double-walled cartons to single-walled cartons, which reduces the amount of resources required and transportation costs.

Replacing diesel or gasoline forklifts with electric forklift

Diesel or gasoline forklifts were replaced by electric forklifts, which reduced carbon and VOC emissions generated from inter-factory transportation.

Developing RFID logistics system

Through the comprehensive planning, implementation and application of RFID technology. our Heshan facility achieved continuous tracking and real-time management flow. This further strengthened our production efficiency, quality control, inventory management, product transportation and cost-savings, aiming to provide our clients with more value-added services.

Eco-driving

We implemented guidelines for the use of vehicle, including: conducting annual environmental training for inter-factory drivers, assessing drivers' driving practices, and saving energy through eco-driving.

Green Office

Leo emphasizes green production as well as green activities at our offices. We promote a green office through green IT technologies and equipment, as well as administrative policies.

In 2009, apart from regular power-saving environmental measures, we launched our Green Office campaigns in the following areas.

Implementation of E-Fax
Replaced the current fax machine with E-fax. Staff could send or receive faxes through their personal computers, saving 5,000 sheets of paper per month.

Replacing CRT monitors with LCD
Replaced the high power-consumption CRT monitors with low power-consumption LCD monitors, which reduced electricity consumption. This project saves 493,812KWH of electricity per year, reducing more than 400 tons of carbon emissions per year.

Computer recycling scheme
Cooperated with computer suppliers to launch computers and accessories recycling and reusing schemes.

Implemented an audio-visual webcam system
Accelerated the communication between Leo and our subsidiaries and reduced the frequency of business trips, which reduces carbon emission while raising efficiency

Promoting the Green Office awareness
- Launched the "Green Office" promotional series
- Launched the "Paper Consumption at the Office Promotion"
- Carried out more detailed classification of office waste
- Established "Guidelines for the use of paper in office"

Power-saving measures at our offices
- Implemented "switch off power" policy during breaks or when off-duty.
- Monitored the use of computers
- Promotional scheme for the power-saving responsibility zone at our offices
- Set the temperature of the air-conditioning at our offices to 25.5 degrees Celsius

Green Purchasing

We understand that whether the raw materials or equipment are environmentally-friendly directly affects whether the products and the production processes are environmentally-friendly. Therefore, purchasing is an important aspect of our environmental initiatives. Our green purchasing requirements has also facilitated the environmental initiatives of our suppliers.

Formulating Green Purchasing guidelines, carrying out Green Purchasing

Leo requires suppliers to provide "Test report for heavy metal in ink" for all inks that we buy.

Development of management systems for suppliers

The Management System Division helps suppliers to develop and implement environmental management systems to continuously implement proper environmental management.

Conducting green audit on suppliers

The Audit Division conducts audit on suppliers through on-site inspections to ensure that they meet environmental requirements.

Environmental Memorandum and Agreement

We communicate with suppliers/contractors to reach a consensus on environmental protection. In recent years, we have entered into the "ISO14001 Environmental Undertaking Scheme" with our suppliers/contractors.

Purchasing FSC or PEFC certified papers

We promote the sustainable development of forests through the purchase of FSC or PEFC certified papers. 6782 tons of FSC paper and 7492 tons of PEFC papers were purchased in 2009.

Purchasing water-based ink

We actively purchase the more environmentally-friendly water-based ink and have reduced the use of mineral ink. 25% of ink at our factories is water-based. The use of water-based ink reduces the emissions of VOC from the source.

Purchasing water-based glue

VOC emissions are reduced through the purchase and use of water-based glue. At present, water-based glue is used for all laminating processes.

Green Purchasing of equipment

We incorporate environmental-protection elements into the purchasing of equipment. When choosing equipment, priority is given to those with low power consumption, low noise and low pollution. After years of equipment updates and replacements, Leo now owns a number of 8-colour printing machines and waterless printing machines which are the most advanced in the industry

Green Products

FSC-certified products

Leo protects the ecosystem of the forest through responsible paper purchasing. We have been FSC-COC certified since January 2007, and since then actively promote the use of FSC-certified papers. These certified papers are made from well managed forests. We increase the use of FSC-certified paper by promoting them to our clients and adoption of the paper for corporate promotional materials and publications.

FSC-COC, certified in 2007

PEFC-certified products

Our commitment to responsible paper purchasing has been further strengthened with the PEFC certification obtained in 2009. PEFC-certified paper is from sustainable sources aiming to protect the forest.

Promoting waterless printing products

Through in-depth research and development of waterless printing techniques, we have gained recognition for our waterless printing abilities. We promote the manufacturing of waterless printing products to our clients. Products manufactured with waterless printing can be distinguished by printing a waterless printing logo on the product.

CA01
Waterless®
Printing. Naturally.

Protect the diversity of trees; ensure no endangered species are included in our products

With reference to the Convention on International Trade in Endangered Species (CITES) of Wild Fauna and Flora (UN) and the Endangered Species Act (U.S.), we established a database of information regarding the fiber origin of our paper stock. Paper made from plants listed in CITES is prohibited. And paper made from tropical wood is also restricted.

Green Energy

Apart from carrying out energy management, Leo is also committed to the recycling and reuse of residual energy as well as the development of clean energy. We promote the use of green energy throughout our production plants. In 2009, our innovative Green Energy projects included:

Recycling system for residual heat from air-conditioning

Through insulation pipes, the residual heat from heat-pump air-conditioner is used for heating bath water for staff. There are two large-scale residual heat recycling systems, which can serve 10000-staff dormitory, saving 180,000 liters of diesel oil each year.

Replace diesel oil cookers in canteen with induction cookers

The replacement of fuels by induction reduces the emissions of harmful substances such as CO2, VOC, smoke and dust. This has resulted in an increased heat efficiency of over 90% of electricity to heat conversion rate. This also lowers the kitchen temperature and noise level. After comprehensive testing, 10 fuel soup boilers were replaced by induction soup boilers in 2009.

Installing solar-powered water heater

By installing a solar-powered water heating system on the rooftops of the dormitories, the heated water can be used as household water at the dormitories, reducing electricity consumption and carbon emissions.

Solar-powered indicators

Solar energy is used as the energy for indicators and streetlights, which reduces electricity consumption. All indicators (about 20) at the Heshan plant have been replaced by solar-powered indicators.

Wind and solar power

Wind power equipment has been adopted for utilizing clean and new energy. A solar power generator and solar power equipment at gate 2 of the Heshan plant is going through a trial run.

R&D for Green Technologies

Alcohol-free solution

Alcohol-free solution was adopted at the end of 2008 for printing machines which is non-volatile, reducing water and ink consumption.

Environmentally-friendly paper-based artificial leather materials

Artificial leathers in the market nowadays are usually made of PVC. Leo has joined a supplier to research and develop an "Environmentally-friendly paper-based artificial leather material" which is non-toxic, non-irritative and does not contain heavy metal and phthalates, thus complying with the standards of European and American safety tests, and fully complying with animal protection regulations of Europe and the USA.

Environmentally-friendly water-based varnish

As research by Leo and our suppliers shows, it is more environmentally-friendly than traditional varnish, which further enhances the quality of our printed products. It also replaces some of the laminating procedures.

Environmentally-friendly resin plate cleaner

Leo successfully introduced an environmentally-friendly resin plate cleaner. It is a recyclable plate cleaner, which has a lower VOC content than current resin plate cleaners and is more environmentally-friendly. It can be recycled at a lower temperature, reducing the consumption of electricity and raising the efficiency of recycling.

Green Living

Leo emphasizes the concept of scientific development, and the harmonious relationship between human beings and nature. We improve our living environment and living style through various environmental initiatives in order to encourage each Leonian to lead a green and low-carbon lifestyle.

At the Heshan plant, there are 1481 arbors, 1960 shrubs, over 12,000 m^2 of lawn and over 20,000 m^2 of ground covered with plants. A Scientifc method is adopted in the cultivation of saplings. Different types of plants are cultivated in different production areas based on the characteristics of that area, and we are continuously increasing the number of plants. There is a total of 16,000 plants including 99 species. As of 2010, the green area in the factory area is 146,740m2, and the greening rate is 22%.

Living area inside Leo's factory area

Green Living

Leo Greenfield Garden (staff dormitory)

Leo's green nursery garden

Classification of domestic waste

Waste recycling bins with clear classifications are widely used in the living areas. At present, domestic waste is mainly classified into three types, recyclable, non-recyclable and recyclable cans for easy handling.

Promote phosphorus-free washing powder

We promote the use of phosphorus-free washing powder throughout the factory area, so as to reduce the amount of phosphorus in the wastewater and lower the burden on the wastewater treatment plant. Regular inspections are conducted for this.

Turn food residue into fertilizer

Food residue from canteens is converted into fertilizer through the kitchen waste system.

Reclaimed Water system

A reclaimed water system was built at the same time as the wastewater treatment plant. This system reduces the discharge of wastewater and at the same time saves fresh water. Domestic wastewater, after intensive treatment and sanitization, is used for toilet-flushing, plant-watering, spraying on roads and rooftops for cooling and fire-fighting purposes.

Leo Promotion of Green Harmony

Promoting Green Harmony® with wisdom, passion and commitment. We all join together to contribute to global sustainable development

Green Harmony® Training and Promotion

Being Leonians, on one hand, we work to uphold our environmental protection philosophy and actively participate in various environmental activities, such as seminars and training sessions, for a better understanding of environmental protection, so as to introduce green practices in our living and work environments, and to advocate green practices. We also actively promote our green beliefs to our customers, contractors, suppliers and all relevant parties to raise environmental awareness and put environmental protection into practice.

Leo's Environmental Training

We promote environmental awareness among all Leonians in order to launch environmental campaigns. Leo has also developed a comprehensive environmental training program:

- Green posters
- Cultivating environmental awareness during orientation training
- Carrying out further training on environmental protection systems, such as: in 2009, we arranged 6 further training sessions on FSC & PEFC systems for 600 staff to enhance their understanding of environmental products
- Special environmental talks are given by the director of environmental protection: In 2009, special environmental protection talks were launched for 2,500 management staff

Leo Woodland Conservation Day

Leo has actively promoted a corporate afforestation scheme for a long time and has co-operated with the Hong Kong Friends of the Earth to implement the "Corporate Afforestation" scheme from 2004 to 2006. More than 300 people, including directors, employees and partners participated in the tree planting activities of the "Leo Woodland Conservation Day." This event has been held twice and altogether more than 10,000 tree seedlings were planted in Ma On Shan Country Park, Hong Kong for effective absorption of carbon dioxide and greening the environment

Total Participation of Leonians

"Sign for Green" Campaign

-- On June 5, 2008, approximately 3,000 Leonians participated in the "Sign for Green" campaign in the Greenfield Garden to show their commitment to environmental protection.

"Be a Happy Farmer" - Leo planting activity

To increase environmental awareness, 50 plots of reserved land have been allocated to our staff members and have been planted with different kinds of green vegetables. Participants gained farming experience and the pleasure of low-carbon living.

Leo Cleaning Day

Leonians participated in street cleaning in Gulao Town.

Leo 6.5 Green Journey

In June 2009, a number of government representatives visited the major energy-saving projects in the plant area, including the waste collection facility, water treatment plant, exhaust gas control system and other energy-saving projects.

Astros Volunteering Woodland

Astros (the Heshan plant) volunteering team developed a piece of land with an area of about 600 m^2 in the Phase 1 area of Greenfield Garden. The Astros volunteering woodland was established and planted 300 Bauhinia trees to promote environmental protection concepts and the spirit of volunteering.

Leo Green Forestry

In order to comply with both international and China's sustainable development strategies and policies on environmental protection, Leo has actively developed green projects. In May 2008, the Leo Agricultural and Forestry Products Development Co., Ltd. was established in Shaoguan to focus on growing green ecological forests, developing specialized plant breeding, planting pollution-free vegetables, establishing forestry research and educating people on green industry.

On March 13, 2009, a delegation of experts from the Chinese Academy of Agriculture and Forestry participated in field visits to the Leo agricultural and forestry base in Ruyuan, Shaoguan, following by a visit to the Nanling National Forest Park

"Safeguarding greenery with tree planting. Saving the Green for our home" – Afforestation activity

Leo led a total of 35 volunteers from the youth league committees of Ruyuan Town and the youth volunteering team of Ruyuan and organized an afforestation activity called "Safeguarding the greenery with tree planting. Saving the Green for our home". About 1,000 trees, including camphor trees, pines and schimas superba, were planted in the base of Shaoguan Leo Agricultural and Forestry Products Development Co., Ltd.

External Exchange and Cooperation for Environmental Initiatives

Apart from increasing self-awareness of environmental protection, we are also eager to promote Leo's environmental philosophy, in order for more people to get to know Leo, and recognize Leo's environmental awareness so as to further extend the influence of green culture. We have done so by:

- Distributing Leo's environmental publicity leaflets and booklets to the customers. Included are our environmental philosophies and introduction of our certified green products in the Leo Express distributed to customers. We also explain our environmental projects and environmental protection achievements to our customers when they visit our Heshan plant.

- Being the award winner and pioneer of environmental protection in the industry, Leo has been interviewed by 18 media groups, newspapers and associations in the industry since 2008, attracting attention from various sectors with respect to our environmental performance.

- Communicating with 13 government and non-government groups who visited Leo, including: Friends of the Earth (HK), Cleaner Production representatives, students from the Hong Kong Polytechnic University, British

- Introducing our environmental performance during awards presentations and different seminars. (For example: "Hang Seng Pearl River Delta Environmental Award—Grand Award", "Hong Kong Awards for Industries: Environmental Performance Grand Award", "Guangdong-Hong Kong Cleaner Production Partners (Manufacturing) logo", Clean Production Enterprises in Guangdong Province", etc.).

- **Visiting Hong Kong with Jiangmen government officials to study clean production**

  In October 2009, our colleagues, together with Jiangmen government officials, attended the Fourth International Environmental Exhibition in Hong Kong, They also visited Dunwell Enviro-Tech (Holdings) Ltd. to study their their waste oil recovery technology, studied the directions and guidelines of the Hong Kong Productivity Council in respect to cleaner production, as well as visited the Hong Kong Polytechnic University to study their cleaner production technologies.

- Promoting environmental awareness to our suppliers, helping them to test paper that is supplied to ensure that it is suitable to use for a green product. meanwhile increasing the variety of our green products.

- **Participate in Walk for Nature @ Mai Po organized by WWF**

  Leo has joined the Walk for Nature@Mai Po program in 2007, 2008 and 2009, and organized Leo staff and their families to participate in WWF's "Walk for Nature @ Mai Po activities." The event gave Leonians the chance to learn about wetlands and take a walk in the Nature Reserve, so as to enhance their environmental awareness. Leo obtained "WWF Corporate Membership - Silver Member" in 2008 and a Pearl Member in 2009.

- **Inviting Mrs Mei Ng to the plant every year to give a presentation on low-carbon life to 300 Leonians**

  Since 2007, Leo has continued to participate in "Friends of the Earth" - Earth Partner Program as well as other environmental and charitable events. Also, from 2008 to 2010, Leo has invited Mrs Mei Ng, the former Director of "Friends of the Earth," to Leo to give environmental seminar on different topics. For example, the topic in 2008 - Understanding the climate change crisis; 2009 - An aromatic journey with love for green; 2010 - Our future - low-carbon life, water-saving life, all of which promote environmental protection and low-carbon living.

Leo
Green Harmony®
Future Plan

Acknowledge our responsibilities, dedicate ourselves to environmental protection and create a Green Harmony® future.

Strategic environmental planning

Phase I (2010-2012): "full participation, reduction, recycling and innocuity"

Measures: through full participation, further reduce or avoid wastes from the source origin; further reuse or recycle wastes through waste analysis; conduct innocuous treatment for wastes without recycling value in accordance with the requirement of environmental protection.

Phase II (2013-2017): "systematization, efficiency, professionalism and technology-orientation"

Measures: this phase will focus on deployment of existing resources such as optimization of our recycling system and systematic management and re-integration of all resources to further enhance efficiency for environmental protection. With maturity of the environmental management system and the change to environmental technology, developing more professional environmental management models and technology will become the mission of Leo.

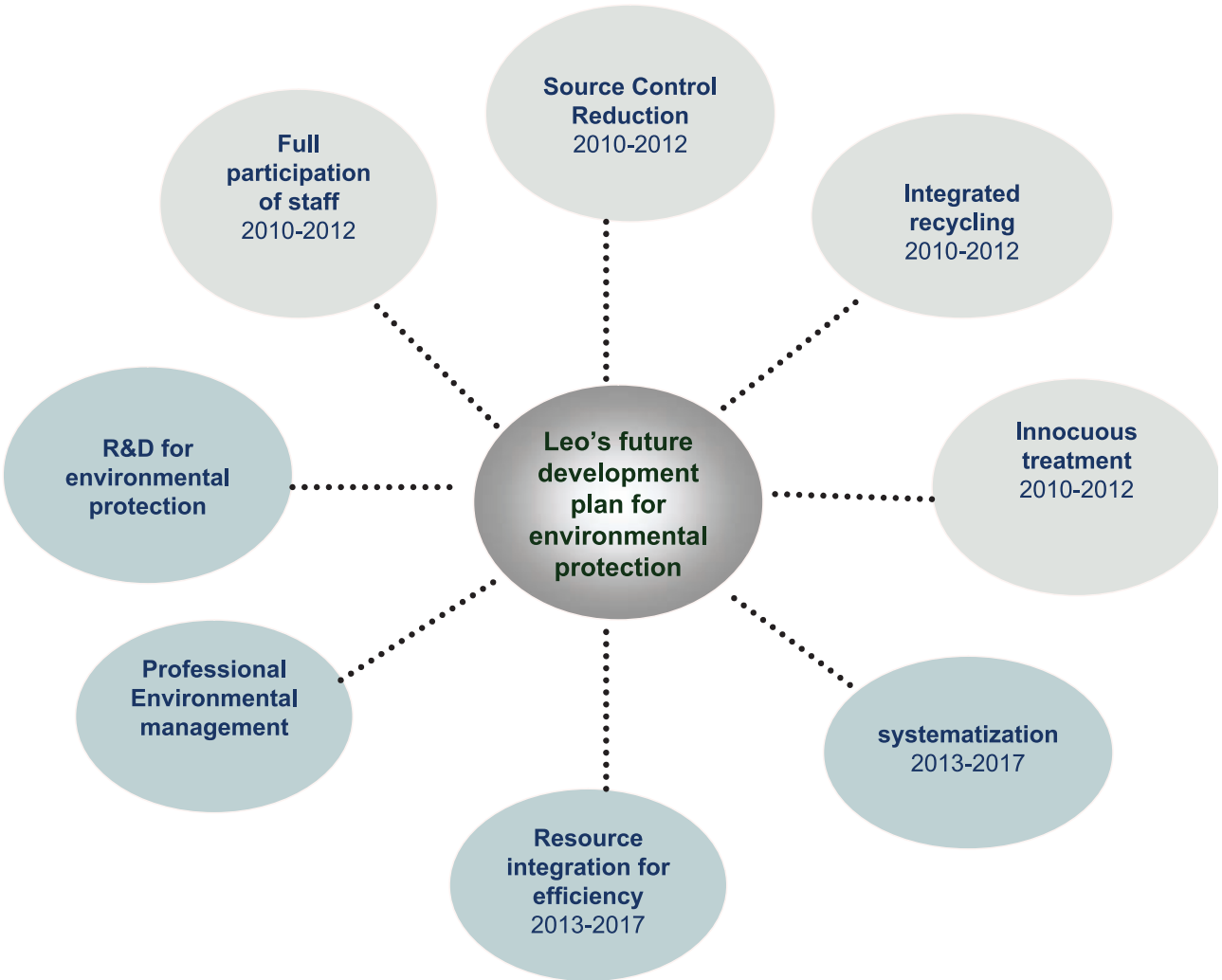
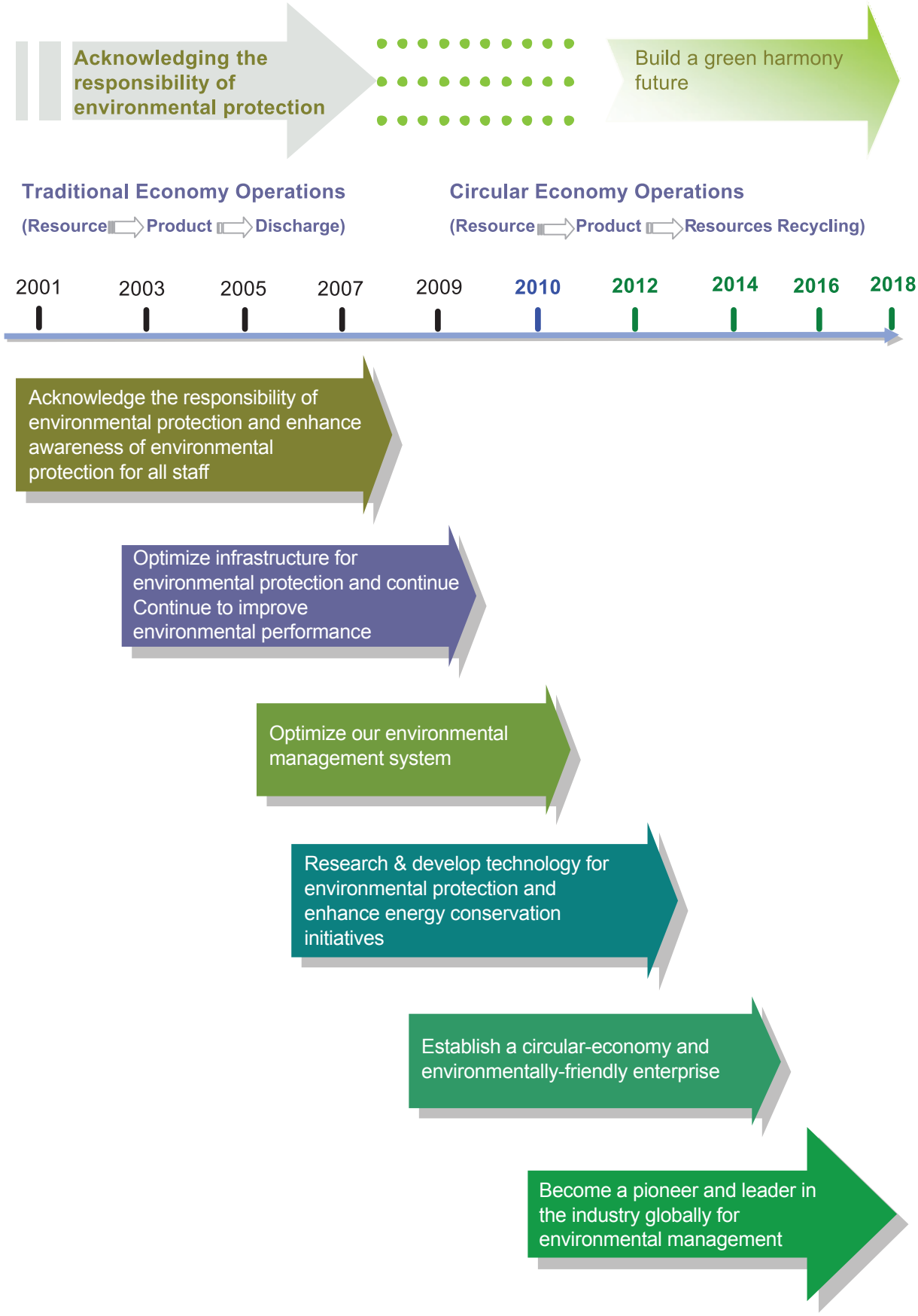


Chart for Strategic environmental planning



Leo 5-year Environmental Targets

We have established environmental targets for the coming 5 years that include enhancing resources conservation; decreasing energy/water/raw materials consumption per unit output; increasing circular recycling of energy/waste/wastewater and further increasing the standard for discharge of wastewater/air emission/waste. The following measurable objectives have been established for each target for the coming 5 years.

Category	Indicator	Target for the next five years
Consumption per unit production	Raw material (paper) consumption per unit production	15% decrease compared with the base year
	Energy consumption per unit production	15% decrease compared with the base year
	Electricity consumption per unit production	25% decrease compared with the base year
	Water consumption (industrial) per unit production Note 1	15% decrease compared with the base year
Consumption per RMB10,000 output	Raw material (paper) consumption per RMB10,000 output	15% decrease compared with the base year
	Energy consumption per RMB10,000 output	15% decrease compared with the base year
	Industrial water consumption per RMB10,000 output	15% decrease compared with the base year
Discharge reduction per unit output	Hazardous waste per unit output	15% decrease compared with the base year
	Strictly-controlled waste per unit output	10% decrease compared with the base year
	CO2/Carbon emissions per unit output	30% decrease compared with the base year
Integrated use of resources	Grey water reuse rate	20% decrease compared with the base year
	Waste recycle rate	100%
	Waste utilization rate	10% increase compared with the base year
Greening	Greening rate in the plant area	15% increase compared with the base year

Note 1: The industrial water includes domestic water in the production area. The base year is year 2007.

Action Plan to Enhance Existing Measures

A number of environmental projects have been implemented over the years. These projects and measures will be further enhanced in the coming years to include the following aspects.

Item	Aspect	Measures
I	Use of water	1. Expand reclaimed water infrastructure so as to increase the reuse rate of reclaimed water to over 60%. 2. Carry out improvement project for water efficiency so as to implement water-saving measures and reduce the use of fresh water per unit output. 3. Identify key water consumption areas, and further standardize the process of using water. 4. Enhance the wastewater treatment process for optimization.
II	Air Emission	1. VOC emission control program to reduce VOC emissions by 30%. Further promote the use of environmentally-friendly materials such as green glue, soy ink, waterless printing, and water-based solvent, so as to reduce VOC emissions at the origin. On the other hand, the emission point control will be further enhanced by re-enforcing the activated carbon system. 2. Greenhouse gas emissions reduction program to decrease carbon emissions by 30%, including the low-carbon-office and low-carbon-production initiatives. Enhance the implementation of ISO 14064 greenhouse gas accounting and reporting system, scientifically and accurately measure and analyze carbon generation at the source. Further promote energy conservation to reduce carbon emissions. Adopt renewable energy such as wind energy and solar energy to optimize the combination of energy provision. 3. Implement key control measures on dust-generation processes such as flocking and printing, developing new dust removal technology, further promoting the use of highly efficient bag-type dust removal facilities and increasing the recycling rate of flock and spray. 4. Expansion of greening areas to increase the greening rate to over 35%.
III	Solid waste treatment	1. Carry out reduction, recycling and innocuity programs, further reduce or avoid wastes from the source origin. 2. Enhance 5-R practices for solid waste so as to increase utilization of general solid waste to over 98%. 3. Conduct 100% classification of hazardous waste, and optimize the processes of waste collection, transportation, and storage. 4. Reduce the use of office paper.
IV	R&D for environmental technologies and products	1. Participate in the establishment of advanced environmental laboratory and national environmental technology R&D and production base. 2. Strengthen research in the reduction of greenhouse gas emissions, aiming to establish a carbon-neutral enterprise. 3. Develop eco-friendly products. 4. Promotion of waterless printing. 5. Promote the application of new energy, wind/solar power and installation of solar panels on certain motor vehicles. 6. Implement training system for environmental technicians.

Action Plan to Enhance Existing Measures

Item	Aspect	Measures
V	Management System Development	1. Strengthen various management systems (e.g. ISO14001, cleaner production, lean manufacturing) to facilitate the implementation of environmental projects. 2. Establish an environmental database to provide technical information for decision-making on environmental management. 3. Develop and implement a management system focused on the carbon footprint of products over their lifecycle. 4. Integrate the corporate policy, department responsibilities and objectives and facilitate the implementation of green initiatives.
VI	Environmental culture	1. Promote staff awareness on environmental protection to achieve 100% environmental awareness. Encourage full participation of Leonians in environmental management. 2. Promote environmental protection award schemes such as the energy-saving award scheme, Lean environmental award and Leo Star environmental performance award. 3. Enhance the training of environmental professionals. 4. Promote a green community.

Leo Environmental Initiatives and Innovation

Leo has implemented a number of environmental initiatives over the years, resulting in certain achievements. However, it is clear that it is still a long journey to reach our ultimate goals, which include building a "zero waste factory", a "carbon neutral factory", and more importantly a "green harmony" world. To achieve such goals, we have formulated work objectives for the coming years that will create a more profound impact on the Earth.

Initiative I: Participate in international, national and industrial environmental activities, promote and share environmental experience as a role model for the industry.

Initiative II: Participate in the development of international/national/industrial standards to lead the environmental development of the industry. For example, Leo has participated in the development of the national standard of clean manufacturing for the printing industry, the national standard of VOC emissions for the printing industry, and the national standard of environmental labeled products for offset printing.

Initiative III: Promote and share environmental initiatives with the public based on our manufacturing experience. A number of environmental infrastructures and facilities have been well operated at our Heshan facility. This production plant has been a very good example to share environmental experience with our clients, suppliers, counterparts from the printing industry, school students, and the public.

Initiative IV: Research and development of environmentally-friendly technology and products towards the development of a high-end technology industry.

Initiative V: Adopt the latest technology to enhance the effectiveness of environmental protection. Leo will promote the adoption of technology in environmental projects in the following areas:

- Adoption (1): Green printing, including pre-press and printing.
- Adoption (2): Treatment of environmental aspects, including wastewater treatment, waste treatment and air emissions treatment.
- Adoption (3): Clean energy, including increased adoption of solar power, wind power, and biomass power.
- Adoption (4): Reduction of carbon emissions in each production process.
- Adoption (5): Green Building: increase the adoption of the latest technology on green building since buildings are a significant source of energy consumption.
- Adoption (6): Green living: as a factory with 20,000 people, the Heshan plant provides residences on site. With the vocational school opening in 2010, the number of people living at the plant will increase. The adoption of new technology for living will provide substantial environmental return.
- Adoption (7): Environmental information platform: environmental issues are a global concern and involves the entire supply chain. Information shared globally will help create better environmental management.
- Adoption (8): With the latest sensing technology and RFID technology, we can establish a real-time monitoring platform on environmental aspects that will allow us to predict and prevent any negative impact on environmental aspects.

Conclusion

"Energy-saving and a green environment" is the trend of environmental protection and has attracted more and more attention. "Green production and ecological development" has become a global norm. Ecological design, ecological architecture, use of new energy, low carbon production, green living and recycling have been regarded as the way to sustainable development. It is not an issue of to do or not to do, it is an issue of how to do it.

Innovation and technology development will further facilitate environmental management. For example, the use of RFID (radio frequency identification) technology and wireless data communication technology and a real-time database for environmental protection information to be shared around the world can be established to broaden the transfer of environmental protection information.

Environmental professionals and full participation are both important for environmental management of an enterprise. Leo actively nurtures professionals in environmental protection, strengthens environmental initiatives with technological and management means and establishes itself as a role model for environmentally-friendly businesses while contributing to the creation of a harmonious and bright future.

Appendix

Leo's achievements in environmental performance over the years

1. In 2004, awarded the plaque for Excellent Model in Environmental Protection (by the Guangzhou Association of Environment Protection/Guangzhou Construction Industry Association)

2.  From 2005-2009, named "Caring Company"each year (by the Hong Kong Council of Social Service)

3. In 2006, awarded with the "Promotion for UN System Procurement in China" (American International Chamber of Commerce)

4. In 2006, awarded with "Guangdong Environmental Protection Charity" (by the Guangdong Environmental Protection Foundation)

5. In 2006, named "Guangdong Environmental Protection Charity Unit" (by the Guangdong Environmental Protection Foundation)

6.  In 2008, received the plaque of "Green-Mark"(by the Federation of Hong Kong Industries)

7. In 2008, awarded with the Grand Award of "Hang Seng Pearl River Delta Environmental Award" (the Federation of Hong Kong Industries and Hang Seng Bank)

8. In 2008, received the "Hang Seng Pearl River Delta Environmental Category Award" (the Federation of Hong Kong Industries and Hang Seng Bank)

9. 

In 2008, received the "Environmental-friendly Outstanding Contribution Award" (Environmental Education Center of Guangdong Province)

10.  In 2009, awarded with the Grand Award of "Hong Kong Awards for Industries – Environmental Performance Award" (Trade and Industry Department of the Hong Kong Government/ Hong Kong Business Environment Council)

11. 

In 2009, named "Guangdong Cleaner Production Enterprise"(by the Economic and Trade Commission of Guangdong Province/Department of Science and Technology of Guangdong Province/Environmental Protection Bureau of Guangdong Province)

12.  In 2009, named "Hong Kong – Guangdong Cleaner Production Partner(Manufacturing)" (by the Economic and Trade Commission of Guangdong Province/Department of Science and Technology of Guangdong Province/Environmental Protection Bureau of Guangdong Province)

Appendix

References

- United Nations Convention on Climate Change - Kyoto Protocol
- United Nations Convention on the International Trade in Endangered Species of Wild Fauna and Flora (CITES)
- China's Policies and Actions for Addressing Climate Change - 2009 Annual Report
- The Eleventh Five-year Plan for National Economic and Social Development
- The Eleventh "Five-year" Plan for Environmental Protection of China
- China's National Plan for Coping with Climate Change
- Guangdong Province's Local Standard of Discharge Limit for Water Pollutant
- Discharge Standard of Pollutants for Municipal Waste-water Treatment Plant
- Emission Standard of Cooking Fume (Trial)
- Emission Limit for Air Pollutant (DB44/27 2001)
- Guidelines to Account for and Report on Greenhouse Gas Emissions and Removals for Buildings (Commercial, Residential or Institutional Purposes) in Hong Kong 2008

Leo's Important Environmental Events

2000

■ In 2000, further emphasized environmental issue as an important part of Codes of Conduct

■ In December 2000, completion of phase I and phase II of the wastewater treatment plants

■ In December 2000, established the dust handling system for the printing workshop

■ In December 2000, adopted water-based ink at laminating division to reduce the generation of volatile organic gases

2001

■ In January 2001, established temporary transfer station for recycling of hazardous waste

■ In November 2001, obtained ISO14001 certificate for our environmental management system

2002

■ In January 2002, completion of phase II of the reclaimed water system

■ In August 2002, the plant of Heshan Astros was listed in the ISO14000 Certification List of China

2003

■ In March 2003, a dust removal system was built in the flocking room to improve emissions

■ In August 2003, the wastewater pre-treatment facilities were expanded and the treatment volume increased to 600 tons per day

2004

■ In July 2004, solar water heaters were installed at Greenfield Garden

2005

■ In March 2005, the new warehouse for dangerous goods was completed

■ In April 2005, the new waste room was in use

■ In December 2005, the energy-saving committee was established

2006

■ In December 2006, phase three of the wastewater treatment plant was completed

■ At the end of 2006, awarded with "Guangdong Environmental Protection Charity Unit"

2007

■ In January 2007, introduced FSC certification for environmental-friendly products

■ In October 2007, introduced clean production management model

■ In 2007, implementation of VOC reduction projects in various sources and introduced wet roller-cleaning technology in the printing division.

■ In July, the laminating division fully adopted water-soluble adhesive for coating

- In 2007, implementation of various large-scale energy-saving projects such as the projects of the residual heat recovering system and the central vacuum pump system

2008

- In March 2008, awarded as the role model of clean production in Hong Kong
- In April 2008, further promoted the adoption of waterless printing and plate-making technology and promoted green printing by using activated carbon absorption device in silk screen-printing workshops to reduce VOC emission
- In May 2008, full implementation of clean production
- In October 2008, introduced the concepts of "zero waste factory" and reduction in carbon emission
- In October 2008, Green Harmony® was registered
- In October 2008, awarded with the Grand Award of the HangSeng Pearl River Delta Environmental Award
- In 2008, total replacement of the T8 fluorescent tubes with T5 ones

2009

- In January 2009, obtained PEFC certification for environmental-friendly products
- In January 2009, awarded with the Grand Award of Hong Kong Award for Industries – Environmental Performance.
- In February 2009, implemented the sludge reuse program and turned sludge into fertilizer
- In February 2009, implemented the program of turning residual food into organic fertilizer
- In February 2009, implemented the air conditioning project with ice storage system in the main plant and promoted implementation of energy management;
- In April 2009, introduced the electricity monitoring system, improved the energy management system and increased the use of fluorescent tubes and reflective panels to reduce electricity consumption;
- In June 2009, participated in the preparation of the Guideline of Clean Production for the Printing Industry in China
- In July 2009, introduced the corporate carbon inventory and audit system and expanded wind power/solar power technology
- In November 2009, named "Guangdong Clean Production Enterprise"
- In December 2009, participated in development of national environmental standard for the printing industry

2010

- In January 2010, introduced carbon inventory and audit system for products
- In January 2010, the Hong Kong office obtained the ISO14064 certification for corporate greenhouse gas inventory and audit
- In January 2010, established Astros Vocational School as demonstration project for green construction
- In January 2010, established the "Green Harmony®" Steering Committee
- In March 2010, the Heshan plant obtained the ISO14064 certification for corporate greenhouse gas inventory and audit

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