

Ford Motor Company



Corporate Environmental Report 2002

Ford Lio Ho Motor Company Ltd.



活得精采

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Preface

During recent years, the environmental protection consciousness of our people has been rising, there is also the concept of green consumption, and all these bring higher requirements and more emphasis on corporate environment performance and social environmental protection responsibility. As well as facing resistance by local environmental protection groups and restriction by laws and regulations, international trade sanctions and environmental protection conventions have also become an indirect source of pressure for company management.

Thus, to respond to the present environmental protection trend globally and the impact on local industries, the government and private enterprises have formed a close connection to set up a system for measuring individual industry and overall sustainable environment efficiency, to provide the function of monitoring, reporting, filing, compiling statistics, and forecasting, and consequently improve national competitiveness and promote the sustainable development of industries.

For these 30 years, the Ford Lio Ho Motor Company has been devoted to the development of the car industry in Taiwan, and actively promoted environmental management, from end-of-pipe pollution control in the past, then industrial waste minimization, cleaner production technologies for the manufacturing process, and product design for environment to conform to environmental protection laws and regulations. Through these efforts, the company has established itself as an excellent role model in the car industry. Over the years, Ford Lio Ho Motor Company has not only won many environmental protection awards, but has held environmental protection and work safety related demonstrations, frequent

inspection and learning events, and actively participates in ecological conservation public activities. Soon, Ford Lio Ho Motor Company plans to publish its first Corporate Environmental Report, to show its environmental protection strategies such as the implementation of green productivity, environmental cost control and green procurement and to further aspire to enterprise sustainable development, which is the commitment that Ford Lio Ho makes to society about putting environmental policies into effect.



Personally, I am really happy to see that the Ford Lio Ho Motor Company is going to publish its Corporate Environmental Report soon. In this report, the Ford Lio Ho Motor Company shows completely its management of environmental protection, its' overall environmental protection performance and the concept of enterprise sustainable development to all for their judgment and understanding. Finally, I hope that the Ford Lio Ho Motor Company can carry on renewing the content and edition of the environment report to be used as the basis of continuous improvement, and become an enterprise that is eager to make progress and at the same time carry social responsibility based on sustainable development as its highest management concept.

Hsin-I Lin
Vice Premier
The Executive Yuan of The Republic of China





Preface



Environmental protection is closely related with the life of every person, and we all expect to live in an excellent environment, therefore, ever since I started to serve in the post of County Magistrate, I have always used Green Life, Environmental Protection by the Entire People, be Environmentally Friendly and Sustainable Development as the general guiding principles of environmental protection work for Taoyuan County, so that Taoyuan County people can enjoy a beautiful living environment that is clean, tidy and comfortable.

Ever since its establishment, the Ford Lio Ho Motor Company has been working hard to promote environmental protection work. From industrial waste minimization measures in the product manufacturing process, office environmental protection promotion activities, to the establishment of ISO 14001, all are the realization of an environmental protection mindset. In addition, Ford Lio Ho also plays the role of corporate citizen, actively participating in social environmental protection activities such as the Environmental Protection Color Painting Activity on Earth Day, the Taoyuan Beach Cleaning Activity in Taoyuan, and the establishment of "Ford Conservation and Environmental Grants". All these have

shown the efforts made by the Ford Lio Ho Motor Company towards enterprise sustainable development. I am very glad to know that the Ford Lio Ho Motor Company is planning to publish its first Corporate Environmental Report, to show its environmental protection practices and responsibilities, environmental performance and environment protection strategies and vision. More important, readers can know from this environment report how the Ford Lio Ho Motor Company achieves production efficiency and environment function at the same time, through promoting its Green Productivity program. It is really worthwhile for local companies to learn and refer to.

It has been proved that Corporate Environmental Reporting can help to improve company competitiveness and company image. It can also increase the credibility of performance of transnational corporations. Therefore, I hope the soon to be published Corporate Environmental Report by the Ford Lio Ho Motor Company will be read & used by local companies, so that they can learn and follow Ford Lio Hos' example: to willing combine the principles of sustainable management into company management, and improve the operational performance of their businesses.

Eric Li-Luan Chu
Magistrate of Taoyuan County





Preface

The production line system created by Henry Ford significantly increased productivity after the industrial revolution, until now, it not only improves the living standard of us all, but also frees human spirit, giving us more time for leisure, thinking and care. Ford's three main global concepts of sooner, safer, cleaner further define the full commitment of a company that improves human mobility during this knowledge-based economy era. The Ford Lio Ho Motor Company has brought this kind of spirit and promise to Taiwan society.

People working in environmental protection related industries of Taiwan have been quite familiar with the achievements made by Ford Lio Ho in environmental protection related works, since it has not only participated in many environmental protection activities and received many significant awards, more importantly, it has frequently joined in environmental protection and work safety demonstrations, inspection and learning activities for experience exchange among local companies, and taken the initiative to participate in all kinds of in-depth ecological conservation activities.

There are more than 1000 Taiwanese enterprises which have received ISO 14001 certification, however, most companies still cannot reach the level of companies from "advanced environmentally friendly countries" in terms of mastering environmental performance indicators and external communication about concrete results and promises. An excellent Corporate Environmental Report is the basis for clearly examining results and promises. In this respect, Ford Lio Ho has again set-up a good example for local companies. In this environmental report, it

has shown its environmental protection practices and responsibilities, its environmental performance, the environmental load for each unit of product (car), and specific strategies, prospects and top management commitment by the company. More importantly, it has put into effect many advanced industry sustainable development tools such as the implementation of green productivity, design for environment, environment cost accounting system, and green procurement, with excellent results achieved.

I have personally participated in many environmental protection activities of Ford Lio Ho Company over the past years, and I really admire the combination of management concepts with environmental protection, work safety systems and innovative actions by the company. I sincerely hope that the publication of this Corporate Environmental Report can be renewed continuously in the future, as the landmark for local industrial groups to promote environmental protection work and issue their own Corporate Environmental Reports.



Jyh-Shing Yang
Deputy Director General
Center for Environmental, Safety and Health
Technology Development (CESH), ITRI





Chapter 1: CEO Statement

Environmental protection is an integral link in the sustainable operations of enterprises. With this in mind, the global system of The Ford Motor Company has always engaged in providing best solutions for environmental protection. It has become a leader in the automobile industry in the 21st century in its effort to save the precious environment for future generations. Over the last 30 years, the Ford Lio Ho Motor Company Ltd has been pursuing its goal of "taking root in Taiwan and developing the automobile industry". The establishment of its Design and Research Center in 1999 has helped to incorporate the front end of Design, and Research and Development into the whole process of development. The construction of the office building for its Design & Research Center started in 2001. The launch of the Design & Research Center has not only helped expand its design team, but also brings the Design, Testing and Development departments close together. A Design, Research and Development team has thus been set up, providing support for local industry and for the Asia-Pacific region. The tasks and vision of the Design, Research and Development Center consist not only of the design, research and development of appropriate models for domestic and overseas consumer markets, but also expansion into larger and broader markets in the Asia-Pacific region, and even in North America and Europe, along with

the supplier companies it assists. At the same time, it aims to achieve its goal and vision of "taking root in Taiwan and developing the automobile industry" by means of introducing advanced technologies from its parent company Ford and sharing resources with the automobile industry and academic research institutions in Taiwan.

The Design & Research Center of the Ford Lio Ho Motor Company has adopted three main directions from its parent company, Ford - Sooner, Safer and Cleaner - in its development of advanced technologies. It introduces "design for the environment" into the R&D and design of car products. During the design process of products, it has given adequate consideration on the prevention of waste production and the best material management. In terms of preventing the production of waste, including reducing the use of substances of concern in raw materials, improving energy resources efficiency, using relatively less material and prolonging the life of product use, all are used to reduce the amount of waste during the manufacturing process and after consumers' use. With respect to best material management,



consideration is given to ease of re-manufacture, recycle and reuse after products are discarded, or energy recovery to recycle energy resources etc. That is to say, it reduces the influence on environment during manufacturing process and after use by car products to its minimum. It aims to reduce the time for the design and development of technologies for new models and bring newly developed models to the market in a shorter time span (take the Tierra LS as an example: the time span for development of this new model will be reduced by at least 60%). In this way, it will also give impetus to the development of research and development capacities in relevant upstream





and downstream industries. This not only will greatly improve the local design and development capacities in Taiwan, but also provide a research and development center for the Ford Lio Ho Motor Company in its effort to support the development of Asian models for the Asia-Pacific region. In this way, Taiwan will truly become a technology exporter for the global automobile industry.

The Ford Lio Ho Motor Company has invested billions of NT dollars in improving end-of-pipe control facilities and promoting industrial waste minimization at source. As a result, the company has received numerous awards and certifications for both the company and individuals over many years, including the Outstanding Industrial Pollution Control Award, Enterprise Environmental Protection Award of the Republic of China, the National Outstanding Industrial Waste Minimization Award, etc. It has also published a number of important papers to share its experience and achievements (need to reference in Appendix). As for its management system, the Ford Lio Ho Motor Company received ISO 9001 and ISO14001 certifications for international quality and environment management systems with initial certification in November 1996 and June 1997, respectively. This is specific acknowledgement of the company's efforts for so many years in the improvement of automobile quality and

environmental protection. At the Second Asia-Pacific Forum for Cleaner Production held in Brisbane, Australia in April 1999 with the support of the United Nations, the company represented Taiwan and published its papers on cleaner production technologies for the automobile industry and shared with others its experiences in achieving its success.

In respect to ecological conservation, in 1996 the company invited Dr. Jane Goodall to Taiwan and assisted in the establishment of "The Jane Goodall Research Institute of Wildlife Conservation". Dr. Jane Goodall is an internationally recognized scholar in ecological conservation and is well known for her chimpanzee research. In this way, the company created a direct channel for communication and cooperation between Taiwan and international conservation organizations, and improved Taiwan's image in conservation. The company also brought the annual "Ford Conservation and Environmental Protection Award" event to Taiwan in 2000. Each year, it invites prominent figures in academic circles and people who are enthusiastic in conservation and environmental protection to choose excellent proposals on conservation and environmental protection from those put forward by various groups and individuals. It then provides an award of millions of NT dollars to fund the implementation of these proposals. Ford Lio Ho strives to

do its best for the conservation and environmental protection of Taiwan.

Looking to the future, the issue of the environment will become more and more important. Its significance simply cannot be ignored. The Ford Lio Ho Motor Company has been carrying on its efforts in this respect, it participated in "Green Productivity Demonstration Program" promoted by Industrial Development Bureau, Ministry Of Economic Affairs (MOEA) and Asian Productivity Organization in 2001, actively developing environmentally-friendly products and establishing appraisal procedures for the life cycles of automobiles. In order to achieve its objective of environmental protection and economic benefits, Ford Lio Ho will continue to lessen the impact on the environment caused by automobile products by continually improving our environmental performance. We aim to minimize our environmental impacts by implementing actions that will help us meet the environmental targets we have set ourselves in this report for 2002 and beyond.

President: Jeffrey Y.C. Shen





Chapter 2: Profile of Reporting Organization

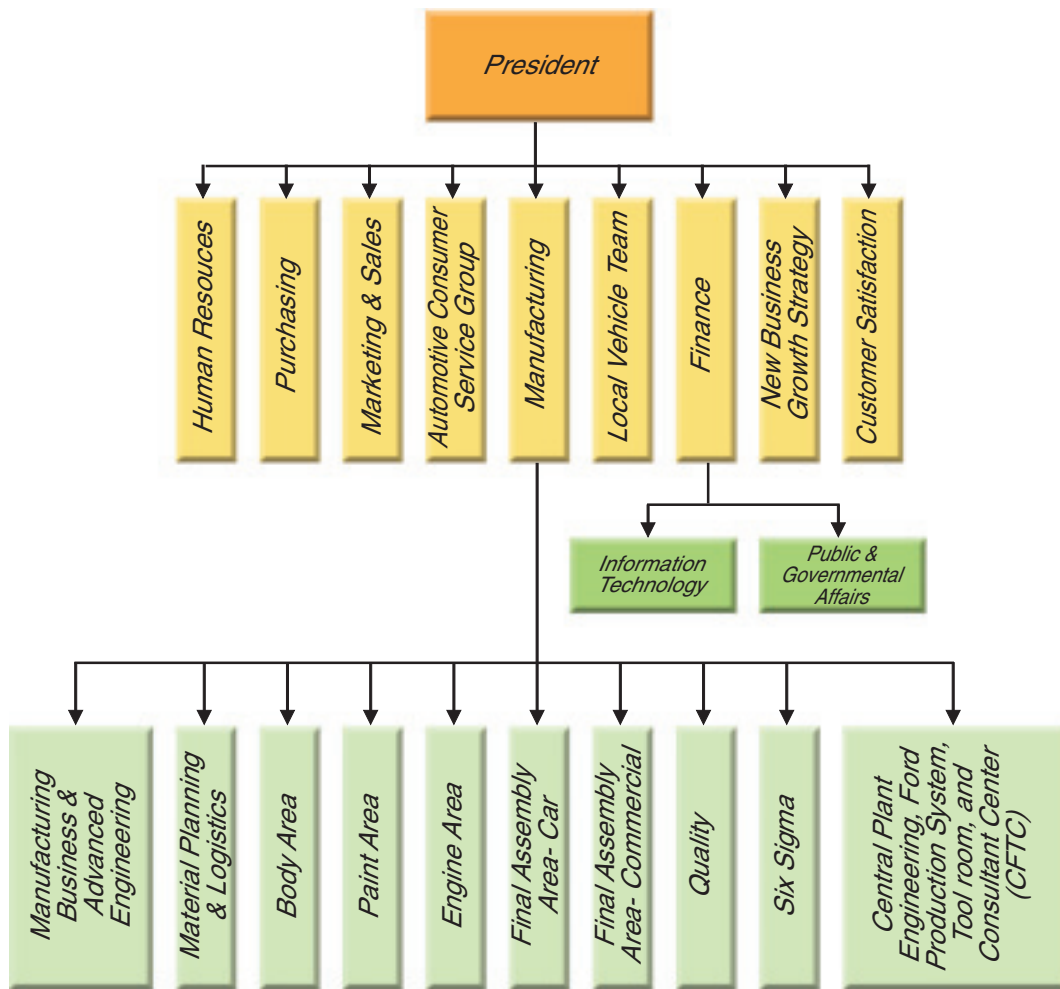
2.1 Company Profile

Company name:	Ford Lio Ho Motor Company Ltd
Date of establishment:	1 December 1972
Address:	705, Section 1 Chung Hwa Road, Chung Li, Taoyuan
Total capital investment:	(at establishment in 1972) NT\$555,276,500
Number of employees:	1,828
Total land area:	349,289 square meters
Business scope:	<p>Production, distribution and sale of various automobiles (including passenger vehicles, truck-tractors and commercial vehicles, as well as parts, accessories, components and equipment)</p> <p>Production, distribution and sale of various engines and motors</p> <p>Sale of various automobile parts and components</p> <p>Import, export and domestic sales of the aforementioned products</p> <p>Agency, consignment, bidding, price quotation and sales (excluding futures) of the aforementioned products</p> <p>Development, design, and maintenance of computer software and technical consultancy (related to the aforementioned products).</p>
Current major products:	include TIERRA LR&RS, METROSTAR, MONDEO RS, ESCAPE/ TRIBUTE, IXION/PREMACY, ACTIVA/ISAMU, PROTEGE, ECONOVAN/BONGO, and PRONTO/PRZ.





2.2 Organizational Structure of Ford Lio Ho Motor Company



2.3 Relevant Information

Financial summary:	The total operating revenue for 2001 was NT\$21.2 billion.
How to obtain relevant information/reports	Relevant information and services of the company are available on the Internet. Website: http://www.ford.com.tw
Contact person:	Contact person: Hsien Fang Yeh/Environmental Engineer, Manufacturing Business and Advanced Engineering, Manufacturing Division Telephone: 886-3-4530805 Fax: 886-3-4635004 Email: syeh3@ford.com





2.4 This Report

This first edition of Ford Lio Ho's Corporate Environment Report (CER) has been prepared in collaboration with the Ford Lio Ho Community Liaison Committee (CLC). The CER has been developed using the Global Reporting Initiative (GRI) 'Sustainability Reporting Guidelines on Economic, Environmental, and Social Performance (June 2000). The report also includes a number of social and financial elements of the GRI guidelines (refer Page 57 - "Index to Global Reporting Initiative Indicators (GRI). Further information about the GRI guidelines can be found at www.globalreporting.org.

The GRI guidelines are an international benchmark for reporting which aim to provide sufficient information allowing readers to make an informed assessment of a company's performance. Use of GRI guidelines can also assist companies in reviewing their own performance. Data included in this report, unless otherwise stated, has not been independently verified.

This report is available to all interested parties including:

- * Neighbours and the broader community (industrial, commercial and residential)
- * Community organisations
- * Regulatory Authorities
- * Ford Suppliers
- * Ford present and past employees and their families

This report and further information can be found electronically at www.ford.com.tw
Ford Lio Ho welcomes any suggestions, questions or comment in regard to the CER. Any correspondence should be directed to:
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Chapter 3: Site Overview and Key Indicators

3.1 Site Overview

The Ford Motor Company was established in 1903. In 1970, in view of the significant potential of the automobile market in Taiwan, the company conducted some studies and assessments in Taiwan. In December 1972, it established a joint venture - Ford Lio Ho Motor Company Ltd - with Taiwan Lio Ho Motor Company Ltd.

The Ford Lio Ho Motor Company has been adhering to its principle of "protecting and taking care of the place where you grow", to be actively involved in environmental protection. The practices of "End-of-pipe Control", "Industrial Waste Minimization", "Design for Environment" and "ISO 14001" certification have all indicated the company's commitment to sustainable operation. For example, traditional manual spot welding equipment has been replaced by automatic spot welding robots and processes using substances of concern are being phased out. After receiving both the factory and individual reward for industrial waste minimization results in 1998, the Ford Lio Ho Motor Company has received again "National Outstanding Industrial Waste Minimization Award in 2001" by the Industrial Development Bureau, MOEA for both the factory and individuals. In 2002, the Ford Lio Ho Motor Company has received again "National Outstanding Industrial Waste Minimization Award for both the factory and individual.

In 1999, the Ford Lio Ho Motor Company introduced the activity of "industry waste minimization & industrial safety supplier assistance system" promoted by the Industrial Development Bureau. The purpose is to assist supplier plants through a cooperative relationship with Ford Lio Ho using the waste minimization experience of Ford Lio Ho, to reach the target of waste reduction at source. After promotion for one year, the company along with 12 selected supplier plants it assists, has saved NT\$58.97 million in operating costs for the companies each year.

The President received "2001 National Outstanding Factory for Reduction of Industrial Waste" by the Industrial Development Bureau, MOEA



The Vice President Ringo D. L. Lin from the Manufacturing Division received "2001 Individual Outstanding Award for National Industrial Waste Reduction" by the Industrial Development Bureau, MOEA





FORD METROSTAR - 2.0 liter engine sedan manufactured in Taiwan that has been awarded the two-star rating for environmental protection in the "2001 Top Cars for Environmental Protection and Fuel Saving"

As well as requiring a Green Productivity approach for its processes, Ford Lio Ho actively implements its concept "Design for Environment". An example is the brand new FORD METROSTAR series, whose exhaust emission already meets the Stage-4 Environmental Protection Standard of the European Community for 2005. It is the only 2.0 liter engine sedan manufactured in Taiwan that has been awarded the two-star rating for environmental protection in the "2001 Top Cars for Environmental Protection and Fuel Saving" chosen by the Environmental Quality Protection Foundation. Likewise, the new FOCUS series recently introduced by the Ford Lio Ho Motor Company has also complied with the European standard ahead of time, which requires a materials recyclability of 85% by 2005.





3.2 Key Indicators

Performance Indicator	Performance Items	Performance Explanation	Performance Average for 2001	Targets for 2002	
Operation	Consumption of energy & resources	Use of electricity	606.3 KWH/unit	594 KWH/unit	
		Use of compressed air	43.5 KWH/unit	42.6 KWH/unit	
		Use of water resources	11.6 M ³ /unit	10 M ³ /unit	
		Use of diesel oil	25.9 L/unit	25.6 L/unit	
		Use of boiler oil	26.8 L/unit	26.5 L/unit	
	Waste management	Amount of waste produced	15.9 Kg/unit	15.1 Kg/unit	
		Amount of waste recycled	67.9 Kg/unit	71.3 Kg/unit	
		Electronic documents to reduce paper use	100.5 paper sheets/unit	97 paper sheets/unit	
		Recycle rate of waste solvent	40.4%	41.4%	
	Air pollutant emission	VOC emission limit-100g/m ²	85.86 g/m ²	90 g/m ²	
		RTO damage rate	2 times	5 times	
	Waste Emission	Waste water emission	7.86 M ³ /unit	6.68 M ³ /unit	
		Emission water quality of waste water pollutants	COD	28 mg/L	66 mg/L
			SS	11.21 mg/L	19 mg/L
Emission of waste water pollutants		COD	218 g/unit	207 g/unit	
	SS	88 g/unit	84 g/unit		
Management	Environmental management system	Re-certificate of ISO 14001 in 2000	Passed surveillance audit in 2001	Re-certification audit of Integrated QS 9000/ISO 14001 in 2002	
		ISO 14001 and QS 9000 management systems integrated in 2001	Finished 2 management system procedure books integration and internal auditing in 2001		
		All suppliers of Ford Lio Ho receive ISO 14001 accreditation before July 2003	45 suppliers have passed ISO 14001 accreditation by the end of Dec.31 2001	63 suppliers have passed ISO 14001 accreditation by the end of Dec.31 2002	
		Publish Corporate Environmental report 2002 edition	Edit the corporate environmental report	Report issued in 2002	
		Community discussion meeting- 4 times	4 times	4 times	
	Legislation conformity	Environmental protection legislation conformity	No fines or violation Notices	No fines or violation Notices	
	Training	ISO 14001 knowledge training	83 staff	150 staff	
		ISO 14001 internal auditors training	35 staff		
		QS9000/ISO 14001 system integration knowledge training	73 staff		
		QS 9000/ISO 14001 system integration internal auditors training	77 staff		





3.3 Corporate Culture

Environmental Protection

Environmental protection has always been the focus of the policies of the Ford Lio Ho Motor Company. Its industrial waste minimization methods for the production process of its products, the promotion of environmental protection in its offices, the establishment of ISO 14001 and continuous improvement are all examples of how it implements its commitment to environmental protection. Apart from its involvement in environmental protection in the automobile industry, the Ford Lio Ho Motor Company has also actively participated as a Corporate Citizen in environmental protection social activities, such as the Environmental Protection School Children's Activity on Earth Day, and the Taoyuan Beach Cleaning Activity in

Taoyuan. The establishment of the Ford Conservation and Environmental Protection Award is also a result of the company's efforts to combine environmental protection with its concept of corporate citizenship. These demonstrate the company's belief in its sense of responsibility towards environmental protection.

Since its establishment, the Ford Lio Ho Motor Company has invested around NT\$400 million in emission control equipment. Its expenses in the operation and maintenance of emission control equipment reach around NT\$2.3 million each year. In 1996, the company spent NT\$96 million in the installation of air emission control equipment in its Painting Plant, a Regenerative Thermal Oxidizer (RTO) that handles Volatile Organic Compounds (VOCs). The Regenerative Thermal Oxidizer has an efficiency of 98% in destroying

VOCs, which exceeds by far the legal requirement of 90% in the Air Pollution Control Act. It received again "Outstanding Factory for Operation and Maintenance in Pollution Prevention Facilities" in 2001 from Industrial Development Bureau of MOEA, which confirms the company's efforts towards emission prevention facilities. In 2002, the Ford Lio Ho received "The Eleventh Enterprise Environment Protection Award"



Vice President - Ringo D. L. Lin of Manufacturing Division is receiving reward from the Industrial Development Bureau of MOEA.



The Ford Lio Ho Motor Company received "President's Health and Safety Awards." from Ford's Head Office, from left to right, Nick Scheele, CEO of Ford; Ringo D. L. Lin, Vice President of Manufacturing Division; Joanne Chou, safety and health specialist.

Occupational Health and Safety

The Ford Lio Ho Motor Company has put a lot of emphasis on occupational health and safety. Each workshop/department has its own fire-fighting and emergency groups. Regular fire drills and relevant training are conducted every year. Substance safety information and signs are displayed where substances of concern are present. All on-site staff members receive training in general knowledge of substances of concern. Voluntary equipment inspections and relevant training

in equipment operation are conducted in accordance with the labor safety and hygiene regulations. The company has implemented a Safety and Health Assessment and Review Process (SHARP) system to ensure safety and hygiene. As a result, it received the "President's Health and Safety Award" from Ford Motor Company in 2000 and 2001. This honor is acknowledgement of the company's performance in ensuring health and safety.





Employee Relations and Training

At the end of 2001, the company had a total of 1,800 employees. The average age of salary and hourly employees is 40.6 and 43.8, respectively. The average service years for salary and hourly employees are 13.7 and 17.0 years, respectively. The turnover rate of salary employees is 5.2% (2001), and that of hourly employees, 0.77% (2001).

With its firm belief that "employees are the greatest asset of the company", the Ford Lio Ho Motor Company has always focused on the

development of its staff. Apart from a number of training courses, it also provides diverse and extensive lectures for its staff, aiming to encourage its staff to study extensively and improve their own competitiveness in the market. The Ford Lio Ho Motor Company believes that every employee has his or her unique potential and talent, and is

entitled to full development. Therefore, it not only places its focus on the value of its "people", but also provides a comprehensive education and training system, individual career planning services and professional development courses to encourage the self-development of its employees after working hours.

Table 1 Statistical table of training

Annual	Training's times per employee	Training's fee per employee	Total employee of training	Total times of training
1999	28.9	3,263	3,885	54,874
2000	42.1	3,666	4,084	75,836
2001	44.8	3,166	3,665	80,798

In addition, the company has made a great effort to foster a good relationship with its employees, so as to bring about a harmonious relationship between management and workers. It uses many channels to have two-way communication with its employees on a regular basis, such as holding the

PULSE survey every year to understand the employees' overall satisfaction with the company. This is based on its belief that employees will only work hard for the company when they have a keen knowledge of the culture, value, objectives, policies and various achievements of the company.

Diversity is a great feature of its human resources policy. The manufacturing industry has a typically low employment rate for women. The Ford Lio Ho Motor Company has tried its best to achieve a gender balance by means of increasing the proportion of female supervisors, giving priority to employing female engineers, and developing training courses for female employees. In addition, it has gone even further to formulate a regulation for sexual harassment prevention on the basis of the principle of gender equality, so that all employees can enjoy respect in the workplace. In a recent publication compiled by the Council of Labor Affairs, this regulation has been chosen as the model for the reference of other companies.

Table 2: Gender Percentage

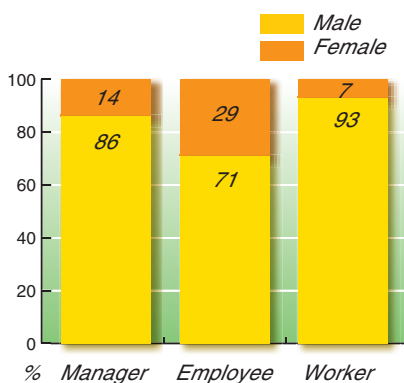


Table 3: Employee Pulse Survey





As a result, the company received the first honorary titles of "Best Employer in Asia" and "Best Employer in Taiwan" from Hewitt Associates of Hong Kong, Asian Wall Street Journal and Far

Eastern Economic Review on 5 September 2001. It is the first and only enterprise in Taiwan that has ever received such an honor in the Asia-Pacific region.



Top: The President Received the special honor of "Best Employer in Asia" in Hong Kong on 5 September 2001



Left: The President - Jeffrey Y.C. Shen of Ford Lio Ho received the honor of "Female Valuing Resource Award" from the President of R.O.C.



3.4 External awards and prizes

Awarded in	Name of the Award	Awarded by
1995	Outstanding Award for Prevention and Treating of Industrial Pollution	Industrial Development Bureau, MOEA
1996	Practical & Technical Award for Prevention and Treating of Industrial Pollution Programs	Industrial Development Bureau, MOEA
1996	1996 National Outstanding Factory for Reduction of Industrial Waste	Industrial Development Bureau, MOEA
1996	1996 Outstanding Staff for Environmental Protection - Manager Jesse Chiou	Environmental Protection Administration
1996	The Fifth Enterprise Environment Protection Award, Republic of China	Environmental Protection Administration
1997	Outstanding Factory for Industrial Pollution Prevention and Occupational Health and Safety	Industrial Development Bureau, MOEA
1998	1998 National Outstanding Factory for Reduction of Industrial Waste	Industrial Development Bureau, MOEA
1998	1998 Individual Outstanding Award for National Industrial Waste Reduction- Manager Jesse Chiou	Industrial Development Bureau, MOEA
1998	Environment Protection Outstanding Factory	Environment Protection Division, Provincial Government of Taiwan
1999	Outstanding Award for Operation and Technology in Fixed Pollution Source, County of Taoyuan	County Government, Taoyuan
1999	Institutional Work Unit with Outstanding Labor Conditions	Council of Labor Affairs
1999	Outstanding Labor Education Work Unit	Council of Labor Affairs
1999	Outstanding Labor Publications	Council of Labor Affairs
1999	New Car Quality Award - Tierra	J.D. POWER (Internationally renowned market research company)
1999	The Best Comprehensive Performance Award - Tierra	J.D. POWER (Internationally renowned market research company)
2000	Outstanding Labor Education Work Unit	Council of Labor Affairs
2000	The Ninth Enterprise Environment Protection Award of the Republic of China	Environmental Protection Administration
2000	Outstanding Work Unit Engaging in Environmental Protection in Offices - Manufacturing Division	Environmental Protection Administration
2000	New Car Quality Award - Tierra	J.D. POWER (Internationally renowned market research company)
2001	Outstanding Labor Education Work Unit	Council of Labor Affairs
2001	Model Factory for Green Productivity	Industrial Development Bureau, MOEA
2001	2001 Individual Outstanding Award for National Industrial Waste Reduction - Vice President - Ringo D. L. Lin	Industrial Development Bureau, MOEA
2001	2001 National Outstanding Factory for Reduction of Industrial Waste	Industrial Development Bureau, MOEA
2001	Outstanding Factory for Operation and Maintenance in Pollution Prevention Facilities	Industrial Development Bureau, MOEA
2001	Outstanding Work Unit Engaging in Environmental Protection in Offices - Automotive Consumer Service Group Division	Environmental Protection Administration
2002	Female Valuing Resource Award	Council of Labor Affairs
2002	Distinguished Public Relation Award - Internal Communication	The Foundation for Public Relation Research and Education
2002	2002 National Outstanding Factory for Reduction of Industrial Waste	Industrial Development Bureau, MOEA
2002	2001 Individual Outstanding Award for National Industrial Waste Reduction - Paint Area Manager - Mike Chang	Industrial Development Bureau, MOEA
2002	The 11th Enterprise Environment Protection Award of the Republic of China	Environmental Protection Administration



Chapter 4: Vision and Strategy

4.1 Vision of Ford Motor Company

"To become the world's leading consumer company for automotive products and services"

4.2 Strategy of Ford Lio Ho in Aspiring after its Vision

In order to correspond to the change in the operation environment and cooperate with the overall strategy by the Ford Motor Company globally, our company has started to introduce "Ford 2000" strategy since 1995, as the foundation for the Ford Lio Ho to improve competitiveness through the implementation of the following seven strategies.

- Empower employees to bring out their strength
- Create the highest efficiency through the best work flow path
- Produce the most superior products globally
- Become manufacturer of low cost
- Become excellent corporate citizen
- Reach the goal of customer satisfaction being job 1
- Promote growth of Ford as an entirety

In order to realize our vision and mission, Ford has built the following strategy pyramid:



Strategy Pyramid



Corporate citizenship strategy is one of the strategies adopted by the Ford Motor Company for realizing its vision, as the society expects a further understanding about corporate citizenship and sustainable performance, within manufacturing operations the corporate citizenship strategy is realized through environmental stewardship, which has five key guiding principles:

- Transition toward sustainability and eco-effectiveness
- Open, transparent connection with external stakeholders
- Alignment of environmental objectives with other business drivers
- Continual improvement of manufacturing site emissions (air, water, waste, etc)
- Robust compliance with environmental legal requirements

Following the corporate citizenship strategy of the Ford Motor Company, the Ford Lio Ho Motor Company has developed the following Management Plan for Environmental Protection:

- Formulation of policies and goals for environmental protection
- Control and reduce the use of substances of concern
- Introduction of clean production technologies
- Design for the environment
- Design of recyclable automobile materials
- Prevention and management of chemical disasters
- Management of restricted substances
- Performance report on environmental protection





Chapter 5: Policies, Organization and Management Systems

5.1 Quality, Environment and Industrial Safety Policies

In order to promote quality and realize safety and health environmental protection work, the President of the Ford Lio Ho Motor Company has signed "Quality Policy", "Environmental Protection Policy", "Health and Safety Policy and Pledge", and the President will sign together with Vice President of the Manufacturing Division, the Vice President of the Human Resource Division and the Executive Officer of the Union at the Ford Lio Ho Motor Company, as the highest guiding principle for quality, environment, safety and health.

Quality Policy:

"Quality is number one; Customers are satisfied"

Environment Policy:

Ford Lio Ho Motor Company is an international and professional automobile manufacturer. All Ford Lio Ho employees are dedicated to meeting the requirements of Ford Motor Company's Global Environmental Policy. Our Environmental Policy is:

"To protect the environment by striving to continually improve processes that minimize waste and pollution, and by setting environmental objectives and targets which meet or exceed all legal requirements."

In order to realize this Environmental Policy, Ford Lio Ho are committed to heading the following:

1. Take into account the use of environmental friendly materials and cleaner production technology throughout the various stages of product

development, from design, manufacture and utilization to disposal.

2. Work with suppliers and provide information and assistance to increase product recycling, resources reuse rate, and to minimize the use of environmental restricted substances.
3. Proactively work with dealers to provide environmental information to customers and promote the "Designed for Environment" products.
4. Build upon our corporate citizenship achievements and share our environmental experience with stakeholders.

The Ford Lio Ho Motor Company has adopted the policies of Ford Motor Company for the protection of health and environment, which are based on the protection of nature, customers, employees and a healthy and comfortable living environment for local residents. With its aim to "ensure a new, safe and healthy environment by focusing on bringing about a greener, more beautiful, and cleaner environment," the company's Environmental Management Representative for the environment reformulated the company's environment policies on the basis of sustainable development and improvement of the enterprise and a respect for the natural environment in September 2001. The new policy has incorporated the company's commitment to "design for the environment" and to "cleaner production", and has been approved and published by the President of the Company.

Industrial Health and Safety:





In January every year, a Health and Safety Policy and Pledge will be jointly signed by the President and Vice President of the Manufacturing Division, the Vice President of the Human Resources Division and the Executive Officer of the Union at the Ford Lio Ho Motor Company. This represents management's commitment to workplace health and safety. This Health and Safety Policy and Pledge signed is posted in the work place, to indicate to employees the company's emphasis on safety and health.

The company management signs Health and Safety Policy and Pledge together with Executive Officer of the Union (the 2nd at the right), which symbolizes the promise to safety and health by the whole company

Health and Safety Policy

"Employees are our most valuable assets. Nothing is more important than their safety and health. Our colleagues and families are all relying on this commitment which should never be compromised." This is the health and safety policy of the Ford Motor Company published by the President.

Health and Safety Pledge

The Ford Lio Ho Motor Company has not only complied with the above Health and Safety Policy, but also worked out the following Health and Safety Pledge:

1. Safety and health first
2. Observing safety and health regulations
3. Improving safety and health equipment
4. Strengthening safety and health organizations
5. Increasing safety and health education
6. Developing safety and health habits
7. Fostering a sense of safety and honour
8. Increasing alertness to prevent disasters
9. Implementing voluntary safety inspection practices
10. Assisting each other in cooperation to ensure safety



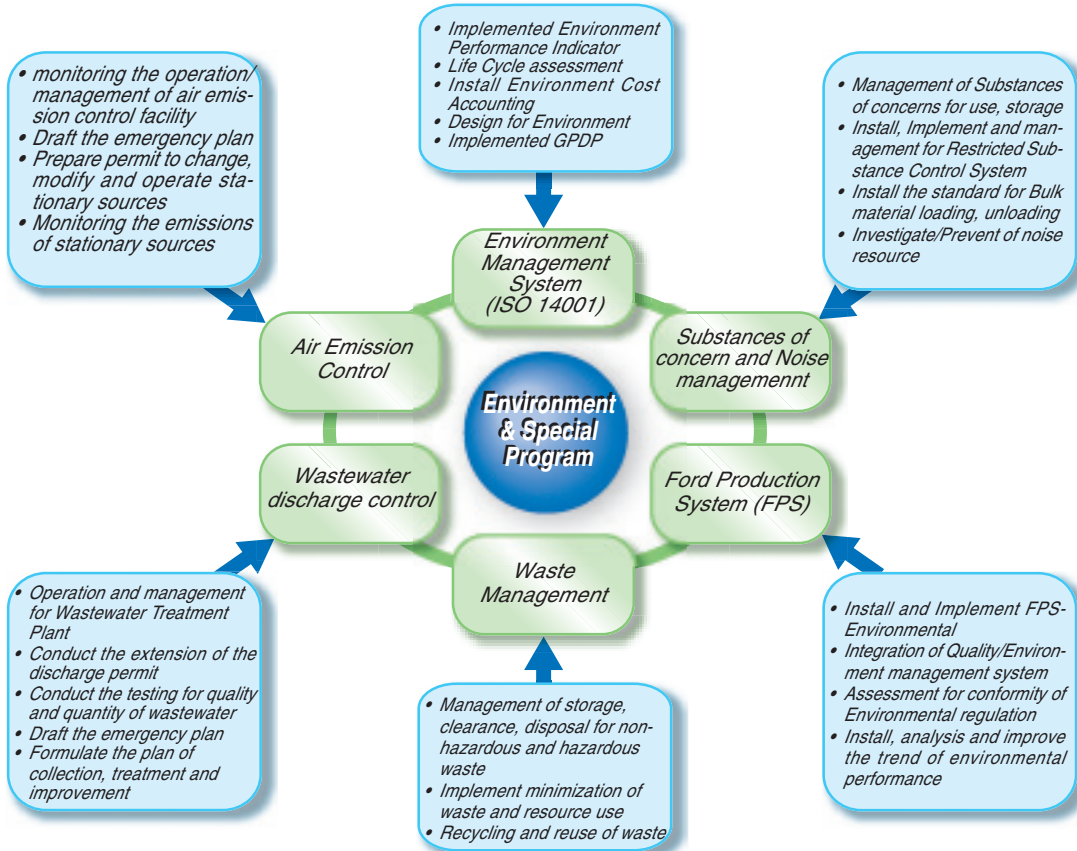
The company management signs Health and Safety Policy and Pledge together with Executive Officer of the Union (the 2nd at the right), which symbolizes the promise to safety and health by the whole company





5.2 Organization Structure

(1) Organization Structure for Environmental Protection Department



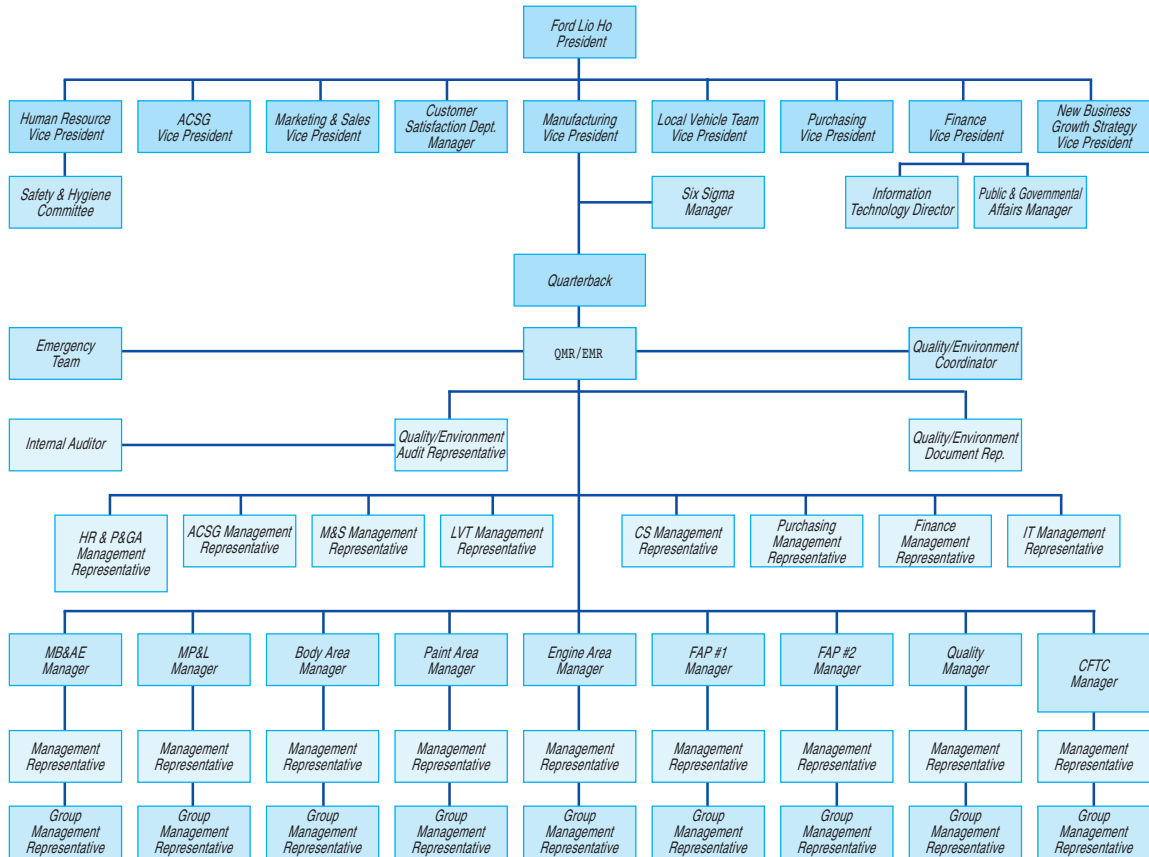
(2) Organization Structure for Employee Health Management





(3) Integrated Quality/Environment System Organization

Integrated QS-9000/ISO14001 Management Committee



5.3 Certification Systems

Certifications Received

Year	Certification Item	Summary
1996	ISO 9001	Quality management system received certification
1997	ISO 14001	Environment management system received certification
1998	QS 9000/ISO 9002	Quality management system received certification
2000	ISO 14001	Environment management system re-certification by SGS
2002	QS 9000/ISO 9001 and integration with ISO14001	April 22~24 - Quality/Environment management system carried out integrated external auditing, Quality/Environment management system re-certification by DNV





5.4 Management Systems

Environmental Management System

The Lio Ho site Environmental Management System (EMS) consists of a series of procedures, processes and programs which enables the site to strive to continually improve environmental performance in accordance with Ford's Environmental Policy. Environmental practices in Ford Lio Ho's operations are implemented by a rigorous system of setting objectives and targets for those aspects designated as significant. For each of the objectives and targets an environment management plan is developed. These plans detail the action to be taken, the responsible person and the timing for completion.

Aspects of Ford Lio Ho's operations are considered significant include those associated with legal and other requirements or if the associated environmental impact group is solid waste or resource utilization (water, electricity, fuel). Significant aspects are prioritized according to performance in regard to legal and corporate requirements, environmental and business risk.

Significant aspects are then managed by:

- Controlling by work procedure (including training)
- investigating the optimum process and improvement action
- implementing a process improvement action to eliminate or minimize the environmental impact

Ford Lio Ho EMS was certified to ISO14001 in June 1997, and in 2000 was re-certified by Societe Generale de Surveillance (SGS). The EMS is audited internally on a regular basis and external surveillance audits are conducted annually. All Ford manufacturing operations throughout the world are certified to ISO14001. More recently, Ford Lio Ho integrated it's QS 9000/ ISO 14001 system to one single system. The integrated system was recertified by DNV in April 2002.



Diagram 1: Statistics on Minor Environment CARs of internal auditing from 2000 to 2001

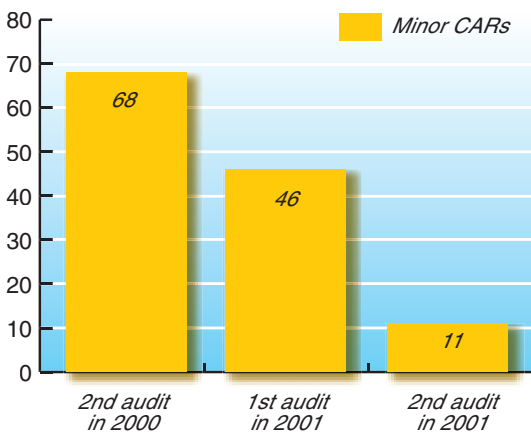
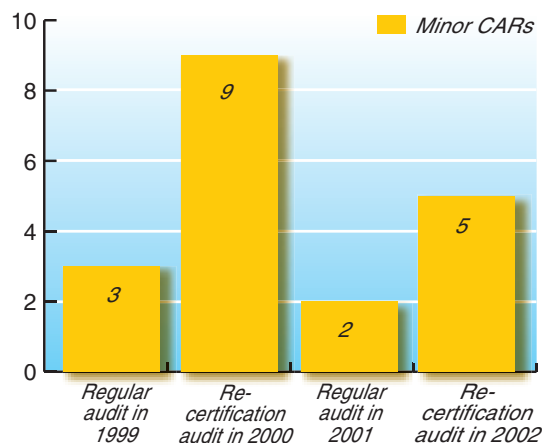


Diagram 2- Statistics on Minor Environmental CARs of external auditing from 1999 to 2002





Quality Management System:

Ford Lio Ho began to implement Ford Motor Company's internal quality system Q1 (Quality 1) in the 1990s. When the international quality management system (ISO 9000) was introduced to Taiwan, the company started to develop ISO 9001 on its existing framework, and received ISO

9001 certification in November 1996. It was also the first automobile enterprise in Taiwan to receive ISO 9001 certification. In 1998, the Ford Lio Ho Motor Company received the even stricter QS 9000 accreditation, which is a quality management system issued by the three main car manufacturers in North America. It can be used as the common language between the

central factory and assisting factories, but also use effectively system affiliated management tools, to improve products quality and stabilize the manufacturing procedures.

In order to guarantee the effective execution of quality management system, internal audits are carried out twice annually.

Diagram 3: Statistics on the internal auditing CARs of quality management system (2000~2001)

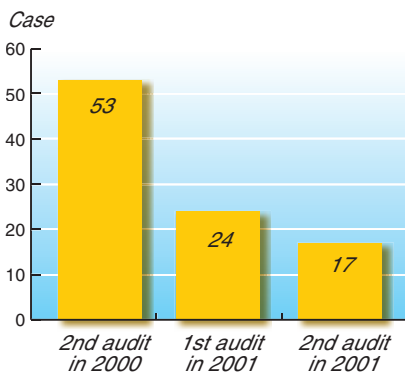
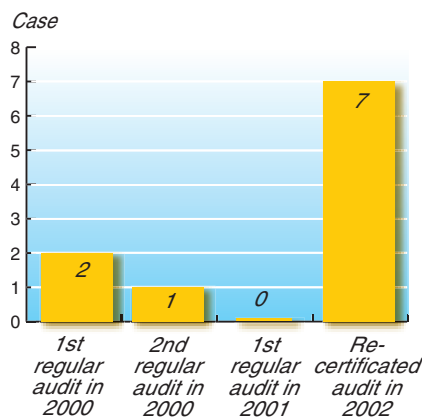


Diagram 4: Statistics of external quality system audit results (2000~2002)



Management System Integration:

In 2001, the company planned and integrated both its quality management system and environment management system into a single quality/environment system. The purpose for the integration is to reduce repetition of documents, to combine the consideration on environment into the whole business, and integrate internal auditing, external auditing and follow-up investigation together. As a result, the time required for internal auditing has been reduced from 195 person-days to

60 person-days a year, a saving of 135 person-days each year. The number of procedure reports has been reduced from 111 to 86, a decrease 22.5%. The integration of the two systems has helped to streamline administrative procedures, and reduce the number of people and days required for internal auditing, and hence reduce the cost. It has also established quality/environment management system website, to computerize all manuals, procedure reports, work guiding books and forms, to manage all documents in a unified way to reduce printing of paper and control the

appropriateness of versions.

The company has worked out an "Auditing Procedure for Quality/Environment Management System". Based on standard practices, auditing representatives draw up an annual auditing plan for the frequency and scope of auditing and the number of auditors. The purpose is to check the internal status of the quality and environment system and the implementation system, so as to confirm the effectiveness and appropriateness of the quality/environment management system.





5.5 Programs Supporting Environmental Improvement

Environment Education and Training

To manage and carry out ISO 14001 Environmental Management System effectively, the Department of Education and Training arranges environmental

protection related education and training every year, to train and cultivate more people, promote and improve environmental protection concept. Below are the environmental training programs offered to Ford Lio Ho employees.

Course Name	Targeted Trainees
Class-A Industrial waste water specialist training	Environmental protection related people
Class-B Industrial waste water specialist training	Environmental protection related people, waste water handling operator
Class-A air emission control specialist training	Environmental protection related people
Class-B air emission control specialist training	Environmental protection related people
Class-A Chemical material technical management personnel training	Environmental protection related people
Class-A waste treatment specialist training	Environmental protection related people
Class-B waste treatment specialist training	Environmental protection related people
Class-A waste disposal specialist training	Environmental protection related people
Class-B waste disposal specialist training	Environmental protection related people
ISO 14001 awareness training	ISO 14001 Area/Department/Division Environmental representatives, internal auditors, document management representatives
ISO 14001 internal auditor training	ISO 14001 Area/Department/Division Environmental representatives, internal auditors
Environmental emission dispute handling	Environmental protection related people
Environmental cost accounting seminar	Environmental protection related people
Environmental achievements evaluation training	Environmental protection related people
Environmental protection laws and regulations training	ISO 14001 Area/Department/Division management representative, maintenance personnel
Environmental consideration aspects evaluation training	ISO 14001 Area/Department/Division management representative,
QS 9000 & ISO 14001 system integration awareness training	QS 9000 & ISO 14001 Area/Department/Division management representative, internal auditors, document management representative
Enterprise environment report compilation training	ISO 14001 Section/Factory area/ Department management representative,
"Green Productivity" champions training	Green productivity champions, Procurement Department personnel, car design & development personnel, supplier factories
QS 9000 & ISO 14001 system integration internal auditing training	QS 9000 & ISO 14001 Area/Department/ Division management representatives, internal auditors





Environmental Monitoring

According to environmental protection laws and regulations and requirement by environmental management systems of the company, the dedicated environmental protection group appoints EPA accredited environment monitoring institute to carry out the following analyses:

Monitoring Category	Monitoring Item	Monitoring Frequency	Results of testing
Waste water quality	COD, SS, pH value, temperature, cadmium, copper, total cadmium, Cr+6, nickel, zinc, cyanide, and lead	Once/month	Comply with influent standard
Air pollutants	VOC, particulates, SOx, NOx carbon monoxide	Once/year	Comply with air pollutants standard
Characteristics of waste	Mercury, arsenic, cadmium, copper, total cadmium, Cr+6, zinc, lead	Once/half year	Base on waste disposal
Management of drinking water	Total bacteria count, coliforms	Once/quarter	In accordance with quality of safety for employees
Noise control	Boundary noise	Once/year	Improvement of noise resource
Quality of cooling tower	Legionella Bacteria	Once/year	Legionella Bacteria growth prevention





Ford Production System (FPS) – Environmental Element

FPS is a lean and uniform production system. Its main purpose is to reach the most satisfactory customer service based on the most excellent quality, low cost, and the fastest delivery, and exclude waste of material, space, equipment and time in all plants of Ford. There are altogether 10 elements in FPS, for the overall production maintenance (FTPM), training, in-station process control (ISPC), manufacturing engineering, environment, industrial material logistics, safety and health assessment and review process (SHARP), work groups, management and synchronous material flow (SMF). Environment is one element in FPS, its purpose is to execute a healthy environmental management system, integrate internal operation completely to guarantee continuous conformation with environment requirements of the government. It is divided into 4 chapters as the following:

- 5.1 Environmental Management System
- 5.2 Environmental Communication and Other Requirement
- 5.3 Environmental Compliance Assurance Process
- 5.4 Environmental Support of Lean Manufacturing

The environment element of FPS is divided into 7 levels with a total of 5000 points. It is assessed using an appraisal table, including Questions, Guideline/Reference, and Verification. Every year, auditors from the general office of Ford will carry out an appraisal of the environment unit. In 2000, the Ford Lio Ho Motor Company received the appraisal at level 3 (7 is the highest level), and in 2001, it received the appraisal at level 5.

Each work group that FPS introduces on the site selects one activity theme every half year to carry out improvement towards rationalization.

Each work group that FPS introduces on the site selects one activity theme every half year to carry out improvement towards rationalization. Each group uses the continuous improvement cycle to reduce the breakdown rate of equipment, improve efficiency to its maximum, save the usage of raw material, and reduce the expenses for cleaning and handling waste. The Engine Area Work Group identified improvements using FPS initiatives. The effective results were a reduction of silica gel losses at 252kg/year, a reduction of glue left at the bottom of bucket at 186kg/year, a saving of total purchase cost at NT\$360 thousand/year. The change of raw material - silica gel has saved NT\$640 thousand/year, reducing the production of waste silica gel 438kg, and also reduces the expenses for cleaning and handling waste.





Six Sigma

Six Sigma is a methodology that applies a set of statistical tools to help improve quality in an organization's products and services. It attempts to systematically reduce variability in any business or manufacturing process, while also reducing or eliminating defects. The core of the Six Sigma methodology is referred to as DMAIC - Define, Measure, Analyze, Improve and Control. Applying Six Sigma to manufacturing processes can result in instant economic benefits with environmental benefits, such as saving of raw materials. Ford Lio Ho has promoted Six Sigma at its site and some supplier sites since June 2000. By the end of June 2002, 33 Black Belts had completed training. The target is for all full-time employees and group leaders to finish Green Belt training by the end of 2002. To date, the estimated financial benefits of implementing Six Sigma are US\$2 million.

Management of Supplier Companies:

Based on the guiding principle of the Ford Motor Company, the Purchasing Division of the Ford Lio Ho Motor Company has established its own guiding principle of treating all distributors and suppliers as partners, purchasing parts manufactured in Taiwan, and establishing a long-term cooperative relationship with the suppliers. In this connection, it conducts regular assessments each year in regards to suppliers' business dealings, quality, delivery time, etc. Suppliers that do well in the assessment will be publicly commended at the annual conference of suppliers.

In order to ensure and improve the suppliers quality, management, technology and production processes, the Ford Lio Ho Motor Company has implemented a "Supplier Evaluation Assessment and Management Guideline" as part of Ford's Q1 supplier accreditation system. The assessment areas include: External Certification, (Q1 supplier companies must have external QS 9000 certification or TS16949; and by July 2003, supplier companies must have ISO 14001

certification), Assessment, Registration (priority is given to Q1 registered suppliers) and Disqualification.

Supplier Environmental Requirements:

In line with the Restricted Substances Management Standard (RSMS) issued by Ford Motor Company, Ford Lio Ho requires its supplier companies to check if the material they supply to the company complies with the RSMS standard. Material Safety Data Sheets (MSDS) need to be supplied and confirmed by the company's internal units for health and safety and environmental protection before any purchase orders can be issued.

In order to further minimize its impacts on the environment, Ford requires all its suppliers to gain ISO 14001 certification by July 2003. Ford Lio Ho currently has 86 supplier factories. Since 1998, the Purchasing Division has been actively pushing forward the 85 main suppliers to implement an ISO 14001 system. In 1999, the Purchasing Division, through the Industrial Waste Reduction and Health Plan and Occupational Health Guidance System from the Industrial Development Bureau, Ministry of Economic Affairs, joined 12 supplier factories to lay a foundation for assisting factories to push forward the ISO 14001 environment management system via the establishment of mechanisms for industrial waste reduction. By the end of June 30, 2002, 61 supplier facilities had received ISO 14001 certification.

As a result of the Industrial Waste Reduction and Health Plan and Occupational Health Guidance System at 12 supplier factories, the economic benefit reached NT\$206 million/year, while the environmental performance included:

- Saving of raw material at around 7,893 tons/year
- Saving of water at around 58,400 tons/year
- Saving of electricity exceeding 8.9 million KWH/year
- Reduction of general industrial waste at





1,036 tons/year

- Reduction of hazardous industrial waste at 290 tons/year
- Reduction of carbon dioxide emission at 4,553 tons/year
- Reduction of VOCs emission at 104.5 tons a year.

each supplier completed a review of industrial safety and health regulations & conducted internal assessments and training.

In addition to environmental benefits,



Richard Chen, Vice President of the Purchasing Division, took the photo together with 12 supplier factories at the Industrial Waste Reduction and Health Plan and Occupational Health Guidance System results appraisal and announcement meeting

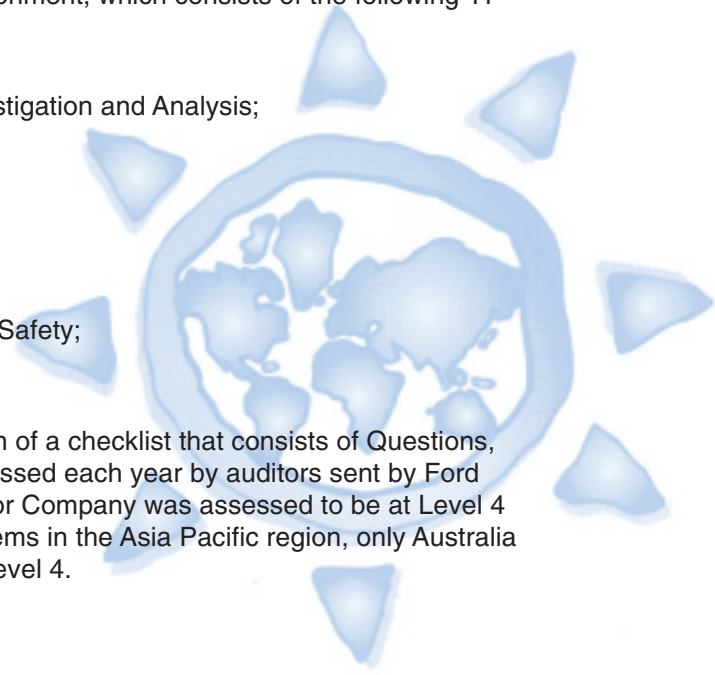
5.6 Health and Safety

SHARP (Safety and Health Assessment Review Process)

SHARP is a unit of Ford Production System, its main purpose is to evaluate the performance of the internal safety and health, to reduce the occurrence of damage and disease, and also provide a safe working environment, which consists of the following 11 chapters:

1. Risk Assessment;
2. Accident/Incident/Illness/Near Miss Investigation and Analysis;
3. Emergency Preparedness;
4. Rules and Work Permits;
5. Personal Protective Equipment;
6. Industrial Hygiene Controls;
7. Clinical Operations;
8. General Promotion;
9. Construction and Installation Contractor Safety;
10. Ergonomics;
11. Compliance.

SHARP assessment is conducted in the form of a checklist that consists of Questions, Guideline/Reference and Verification. It is assessed each year by auditors sent by Ford Motor Company. In 2001, the Ford Lio Ho Motor Company was assessed to be at Level 4 (Level 8 being the top level). Among Ford systems in the Asia Pacific region, only Australia and Taiwan Ford was also assessed to be at Level 4.





Health and Safety Promotional Activities

The Ford Lio Ho Motor Company often holds health and safety-related activities to encourage its employees to pay attention to health and safety issues, and put health and safety practices into place in daily life. The following is a list of major health and safety activities held in 2001:



1. Health and Safety Cartoon Contest

The contest was held to increase the employees' awareness of health and safety issues. Prize money was given to award-winning cartoons, which were also displayed in staff canteens and the workshops of various plants.

Outstanding works by employees in the Health and Safety Cartoon Contest

2. Presidential Award for Health and Safety of Ford Lio Ho Motor Company

The contest for the Presidential Award for Health and Safety of the Ford Lio Ho Motor Company is held every year and is attended by 10



3. Ford Global Presidential Award for Health and Safety

The Ford Motor Company started to hold the Ford Global Presidential Award for Health and Safety in 2000. The Ford Lio Ho Motor Company actively participated in the contest. The Company was listed among the top 15 among all Ford plants around the world in 2000. In 2001, it won first place among Ford

site units of the company. The top three units are awarded prize cup/medal/banners as encouragement. The contents of the contest are as follows:

- Site auditing for health and safety;
- Auditing of weekly reports;
- Reporting of near misses;
- Reporting of best practice;
- Reporting of educational training /health checkups and attendance rates;
- Tracking of the progress of health and safety issues;
- Updating of the health and safety bulletin board;
- Health and safety meetings held by each unit every month;

- Number of cases involving loss of working hours;
- Others, such as the return of the inspection records of special operation permits and electric gas welding permits, the return of repair notices for fire fighting

equipment, or whether accident investigation reports fail to be returned by due dates, etc.

plants in the Asia Pacific region, with its "E-Safety and Health," project which is detailed as follows.

4. E-Safety and Health

In 2001, the Employee Health Management Department set up a human engineering website, which allows various plants to upload photos and text to the website regarding differences before and after human engineering improvements. Discussions were held at the quarterly meeting of the Health and Safety Committee. Through this, plants can learn from each other and implement relevant human engineering improvements in their own plants through best practice replication. All employees may also visit the website to browse. Following the Human Resources website being launched, the Safety Hygiene & Health Department also set up an online meeting on health and safety. All health and safety topics are discussed at the meeting and the results are published online for the future reference of its employees. In this way, it has achieved its paperless goal in environmental protection.

5. Five-minute Talk on Health and Safety

Each week, the Employee Health Management Department issues a Five-minute Talk on Health and Safety, and it is posted in work sites so that employees can read it. It also requires group leaders to communicate the talk to employees at morning roll call. The talk draws the attention of employees to health and safety issues in work and daily life.





Health Risk Management

The Ford Lio Ho Motor Company started to conduct safety risk assessment (SRA) from 2001. It also started to conduct health risk management in 2002, in cooperation with the Occupational Medicine and Industrial Health Research Institute of Taiwan University.

The health risk of employees is assessed in light of the employees' health checkup information, measurement of work environment (area and individual sampling), employees' health questionnaires, occupational disaster statistics, Material Safety Data Sheets (MSDS), etc. (NB: Apart from

normal health checkups, a special checkup is also conducted for employees who are exposed to elevated temperatures, noise and organic solvents). The result of this assessment is used to determine the priority of risk controls.

Education and Training on Safety and Health

Course Name	Trainee	Training Hours
Entry into an enclosed area	People who need to enter such areas, monitoring personnel, rescuers (first aid unit of the fire fighting and contingency groups), relevant managers (group leader and superiors)	2 hours
Overhead work	Operators, rescuers (first aid unit of the fire fighting and contingency groups)	2 hours
Energy control and power locking	Operators, relevant managers (group leader and superiors)	2 hours
Vehicles for powered material handling	Driving of (diesel/electric/gas-operated) stackers, trailers, and hand-controlled pallet trucks	2 hours
Fire drill	Members of the fire fighting and contingency groups	1 day
Use of the human engineering website	Specified personnel	1 hour
Education for operators of oxy-acetylene welding devices	Relevant personnel	18 hours
Health and safety education for first-aid persons	Relevant personnel	18 hours
Education for operators of fixed cranes with a lifting capacity of less than 5 tons	Relevant personnel	18 hours
Training on common knowledge of hazardous substances	Operators handling hazardous substances	3 hours
Application of concepts and assessment tools for human engineering	SHARP representatives and specified personnel	2 hours
Brief introduction to fire fighting concepts and equipment for engineers	Site engineers	2 hours





5.7 Corporate Citizenship and Communication with Stakeholders

Ford Conservation and Environmental Grants:

In 2000, Ford Lio Ho joined together with Ford Motor Company to introduce the first Ford Conservation and Environmental Protection Award to Taiwan. The award consists of the following three prizes: (1) Environmental Conservation Promotion Prize, (2) Cultural Heritage Preservation Prize, and (3) Environmental Protection Vanguard Prize.

In 2000, the Black-faced Spoonbill Conservation Society was awarded the prize money of one million NT dollars. Five other persons were chosen as Ford Environmental Protection Champions. In 2001, the proposed plan for the "Educational Park for Ecological Diversity of Taipei's Freshwater Wetlands - Rescuing the Taipei Rana Swinhoana (Taipei Red Frog) (a Species Facing Extinction)", which was put forward by the Taipei Natural Ecology Foundation, was awarded the Environmental Conservation Promotion Prize. It has always been a commitment

of the Ford Lio Ho Motor Company to promote environmental protection and cultural education. The launch of the Ford Conservation and Environmental Grants is to encourage more enterprises to participate in natural and human ecological conservation public activities run by individuals and organizations. The company hopes that the Ford Conservation and Environmental Grants will bring more and more enterprises in Taiwan to pay attention to the protection of the natural environment and cultural heritage.

2001	Prizewinning Program Name	Prizewinning Unit	Influence/Contribution
Environmental Conservation Promotion Prize	Educational Park for Ecological Diversity of Taipei's Freshwater Wetlands - Rescuing the Taipei Rana Swinhoana (Taipei Red Frog) (a Species Facing Extinction)	Taipei Natural Ecology Foundation	Establish a low-altitude freshwater wetlands diversity educational park, to rescue Taipei Red Frog from facing extinction
Cultural Heritage Preservation Prize	Study and Establishment of Taiwan Old Tree Digital Database	Huang Yu-Wen	Establish map database for 140 old tree at countryside of Taiwan
	Facial Tattoo Culture Preservation Plan	Tien Kuei-Shih	Help modern people in diversification to increase understanding about the aboriginal's culture
Environmental Protection Vanguard Prize	One Person One Letter Bear Saving activity - the Tree of Hope	I Lin Middle School Roots and Shoots Group	Establish to encourage children to take initiative in thinking about the importance of environmental protection
	Respect Everything, Become Reconciled with the Nature - Useable Resources Recycle Promotion	Environmental Protection Angel Team of Jui Hui Primary School	
	Taipei Region Senior High School Students Wetlands Ecological Observation Drawing	Taiwan Wetlands Website formed by science and environmental protection groups of Taipei, Keelung and Ilam senior high school students	
	Silly Baby Who Treasures Fortune - We Are Also Environmental Protection Vanguard	Beautiful Taiwan Foundation/raised by Lung Shan and Yu Jen Centre together	
	Provide More Home to Taiwan Betta	International Jane Goodall Keelung Roots and Shoots Group	





Group photo of Top management of the company with prizewinners of the second time

"Provide Employment Opportunities to Spinal Cord Injury Victims"

In order to do its duty as a good corporate citizen, the Information Technology Division, with the support of relevant software and hardware suppliers, assisted the "Spinal Cord Injury Care Center" to set up a website and a workshop, so that the center could get its business up and running

It was Information Technology Division that first came up with the idea. While preparing the planning of community services, they considered what ways should be found to increase the self-reliance of disabled people, so relevant suppliers were brought along to help with the setup of a website for the centre, with a series of training courses that lasted for several months being arranged. The company's idea of promoting community services and repaying the local people for their support was implemented.

The newly established online workshop enables these disabled people to find a job, go to school and obtain relevant information on social welfare, medical

services, etc. It also offers external services such as web page design, website maintenance and virtual hosting to individuals and organizations. In the future, the Ford Lio Ho plans to encourage its distributors and supplier companies to make more use of their services and entrust them with its own web page design and website maintenance.

Apart from providing disabled people with more opportunities for employment, one of the most important purposes for the Ford Lio Ho Motor Company to launch such a cooperative plan was to develop their skills. Through the training course, disabled people can develop their professional knowledge, work skills, word processing and communication skills, which gives them a more competitive edge in the employment market.

Participating in Public Welfare Activities of the Government- Vanguards Protecting Our Beaches

The Taoyuan Township Government of Taoyuan County has established a community service organization. In 2001,

Ford Lio Ho put together a Cleaning Team to assist the Taoyuan community service organization with cleaning of Taoyuan beach. On 30 June 2001, the Ford Lio Ho Motor Company organized more than 300 employees and their family members to participate in the public activity of beach cleaning held by Taoyuan County Government. This was the company's first initiative to organize its employees and their family members to participate in community service, with the support of its trade union and Welfare Commission. On that day, employees and their family members wore T-shirts emblazoned with the words "Living a Wonderful Life", which symbolizes the company's spirit of "innovation, enthusiasm and vigour".

Mr Ying Shen Xu, Acting County Magistrate of Taoyuan, commended the Ford Lio Ho Motor Company for its enthusiasm in participating in the public beach 'adoption' and cleaning activity. In particular, he gave an Excellent Unit Award to the company, which was received by Mr. Lawrence Yeh, Vice President of the Human Resources Division on behalf of the company. Many volunteer groups participated in this activity, but the Ford Lio Ho Motor Company had the largest number of employees and their family members involved. These happy Ford people were simply everywhere, promoting "Living a Wonderful Life" and working hard to remove rubbish from the beach.





Right: To maintain a beautiful living environment for the next generation, the Ford Lio Ho staff, family dependents, distributors and supplier companies show the spirit of "living a wonderful life" together.



Below: Ford people remove rubbish from the beach with sun-hat and gloves under the bright sunny sky

In response to the World Earth Day on April 22, 2002, the Ford Lio Ho Motor Company Ltd called company staff and family members, distributors and supplier companies etc. 1800 people to make efforts for environmental protection, cooperating with the 2002 beaching cleaning activity held by Taoyuan County Government on Sunday (April 21). It is expected that this practical action can display the care about environmental protection by the Ford Lio Ho and also the concept and bosom as a corporate citizen, at the time when having rooted in Taoyuan for 30 years.





Nourish My Children and Extend to Other People's Children

Based on the belief in return of "nourish my children and extend to other people's children", the Ford Lio Ho Motor Company has extended its service to the orphan's house. The company society - the Love Society has held outdoors activities for children at the orphan home and also provides public welfare holidays to its employee two days every year, to encourage employees to carry out social welfare activities. The orphan house is one of the service subjects of the community social welfare activities by the company. After evaluating the orphan house buildings, it was decided to re-whitewash the outside of its 6 buildings, and decorate the walls. Ford people made efforts and contribution in every step, and the hardship of working under the sun, wind and rain became immediately nothing when seeing the happy smile on the children's faces. Colleagues of the Information Technology Division also helped to set up two brand-new computers, and introduced children's computer education course, to lead them to travel in the world of hi-tech computer and Internet freely.



Color painting activity on World Earth Day- participants concentrated all attention on painting

Donation of Vehicles to Vocational Schools for Teaching and Practice Purposes:

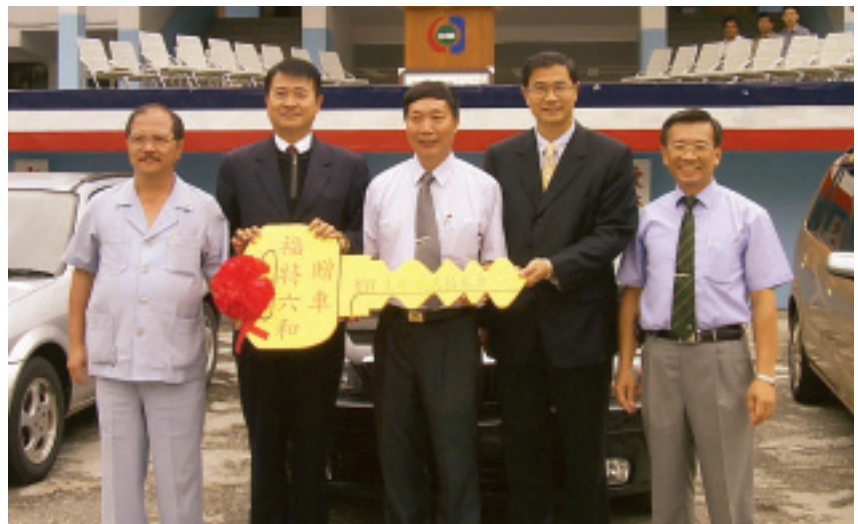
Environmental Protection Color Painting Activity on World Earth Day:

In order to increase the community's awareness of environmental protection and respond to the spirit of environmental protection of World Earth Day, the Public & Governmental Affairs Division and the Environmental & Special Programs jointly held a color painting activity on World Earth Day on 28 April 2001. The enclosure walls on the two sides of Ford Avenue in front of the Ford Lio Ho Motor Company were used for color painting with the themes of ecological conservation, greener environment, recycling, clean production technology, alternative energy powered vehicles, etc. A total of more than 300 people in 60 groups were invited to participate in the on-site color painting activity, including students from neighborhood schools, residents and family members of employees. Asia Industries Company Ltd., a supplier of our company, generously provided the paint for the color painting activity.

Ford Lio Ho has been committed to the improvement of quality for car repairs and the

communication between enterprises and academic circles. In recent years, it has donated a number of used vehicles, engines and gear boxes to some vocational schools that it has a cooperative relationship with, including Qi Ying Industry and Commerce Vocational School, Chung Hwa Vocational School, other vocational schools that run courses in car repairs, and vocational training centres around the province. This has been done as part of the company's responsibility as a corporate citizen. The company hopes that this will increase positive interaction between enterprises and academic circles, and bring enterprises to place more and more emphasis and resources in the vocational education system in Taiwan.

Chung Hwa Vocational School received donation from the Ford Lio Ho Motor Company. From left to right, Mr. Chin Kun Lai, Principal of Chung Hwa Vocational School; Mr. Ringo D. L. Lin, Vice President of the Manufacturing Division, representative from Chung Hwa Vocational School; Mr. Lawrence Yeh, Vice President of the Human Resources Division, and representative from Chung Hwa Vocational School.





Community Liaison

In order to realize the company's aspiration of being a good corporate citizen, strengthen interactive relationship with the local people, put good neighborliness into effect, the Ford Lio Ho Motor Company holds community seminars every quarter to provide a means of communication inside the company. Engineers from the Environmental & Special Program give presentations

about the company's results in wastewater, air emission control and boundary noise measurement and control, and also receive opinions and expectation from the neighborhood community in terms of environmental

protection. The Environmental & Special Program also takes note of complaints from the community, undertakes investigation, communication and coordination, and also informs the results and countermeasures of the complaint via telephone.



Industrial Relations:

It has been nearly 30 years since the Ford Lio Ho Motor Company was established. The very low turnover rates indicate that the company not only complies with the stipulations of the Basic Labor Law in terms of employees' wages, work hours, welfare, leave, retirement, etc., but also goes beyond the basic requirements of the current Basic Labor Law with a number of other items, for example holiday allowance and a good union. All

of these have attracted employees and made them proud of working for the Ford Lio Ho Motor Company.

Senior management of the company holds regular communication meetings with all employees in order that the opinions of the employees can be fully communicated. They also have talks with union leaders and pay regular visits to the work sites of the plants and show their concern for employees. The Human Resources Division also

holds education, training and industrial relations meetings for all union leaders, so as to strengthen industrial relations and the role of union leaders, implement legal requirements, and improve the cooperation and communication between management and employees.

In order that the employees can enjoy a comfortable and relaxing place during their breaks, Mr. Ringo D. L. Lin, Vice President of the Manufacturing Division, held the first contest for making the plant greener and more beautiful in 2000. The employees were asked to plan the landscaping project for the plant with their innovative minds and active hands by means of recycling, and were encouraged to 'adopt' landscaped areas. Such an activity not only brings about a beautiful environment, but also shows the vigorous and personal aspects of the whole plant through the great efforts of the participants. It also shows management's care for its employees.



Relaxing place that is exquisitely arranged and decorated by staff of Engine Area





The company's excellent work conditions and welfare system were acknowledged by the Council of Labor Affairs of the Executive Yuan, which awarded it the honorary title of "Private Enterprise of the Year with Excellent Work Conditions in 1999". Its labor education and staff training were also recognized by the Council of Labor Affairs, and its was awarded the honorary title of

"Private Enterprise of the Year for Promoting Labor Education in 1999". In the same year, the "Ford Lio Ho Motor Company Automobile Newsletter" was also recognized by the Council of Labor Affairs, and was awarded the "Excellency Prize for Excellent Labor Publications". In 2002, Company Newsletter received the 'Distinguished Public Relation Award - Internal Communication'. On 5

September 2001, the company was chosen as "Best Employer in Asia" and "Best Employer in Taiwan" by Hewitt Associates of Hong Kong, the Asian Wall Street Journal and the Far Eastern Economic Review. It is the first and only enterprise in Taiwan that has ever received such an honor in the Asia Pacific region.



"Ford Lio Ho Motor Company Automobile Newsletter" was selected as "Distinguished Public Relation Award - Internal Communication" in May 2002





Chapter 6: Performance

This chapter describes the environmental aspects and impacts of our manufacturing operations. Each section presents relevant historical data associated with the environmental aspects. This data is used to track our performance, and is used in setting environmental objectives and targets each year with the aim of improving our performance and minimizing our operation's impact on the environment.

Objectives and Targets for 2002/2003 for the environmental aspects discussed below are presented in Section 6.8.

6.1 Air Pollution Prevention

Ford Lio Ho has the following permitted stationary sources of Air Emissions:

- 1 Oil-burning boiler for steam production.
- 2 Paint-spraying and oven drying operations (93 discharge stacks).

The main air emissions from these sources are combustion gases from the boiler (particulates, SO_x, NO_x, CO), and Volatile Organic Compounds (VOCs) from paint spraying and drying. In addition to these permitted emissions, other sources of air emissions from the site's manufacturing operations are combustion of diesel fuel (used to heat & fire the paint shop ovens

and incinerator), and electricity use. The paint shop has adopted high-class diesel fuel and low-sulfur boiler oil to reduce the emission of SO_x and NO_x. Electricity is supplied to the site by the Taiwan Power Company, which uses unprocessed oil as fuel. Emissions from use of electricity at Ford Lio Ho are considered in Section 6.5.

In 1996, Ford Lio Ho spent NT\$96 million in upgrades to the paint shop to reduce VOC emissions. The major upgrade was installation of a Regenerative Thermal Oxidizer (RTO), which incinerates the VOCs emitted during oven drying operations. The incineration efficiency is between 95-98%. This upgrade meant that Ford Lio Ho met the revised 1999 EPA discharge standard for VOCs of 110 g/m², one year ahead of schedule.

Since installation of the RTO, the Paint Area has planned & implemented further operational changes to reduce the VOCs produced by paint spraying operations. VOCs reduction measures put in place or planned include increasing the solids content of paint, conversion of spray guns to higher efficiency Low Volume Medium Pressure (LVMP) or electrostatic guns and reducing the quantity of cleaning solvents and collecting & recycling them.



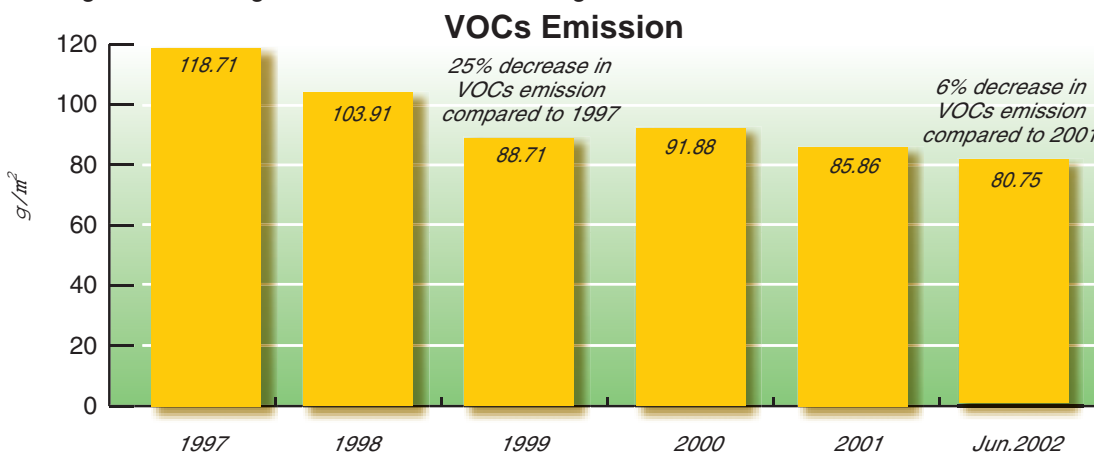
Air pollution prevention equipment— RTO



Every year, an accredited testing company recognized by the EPA conducts sampling and analysis on discharges from the stacks and the results of testing are submitted to the EPA for reference. For the RTO, apart from annual regular testing, a test of the destruction efficiency is conducted to ensure pollution prevention facilities are meeting the stipulations of the EPA.

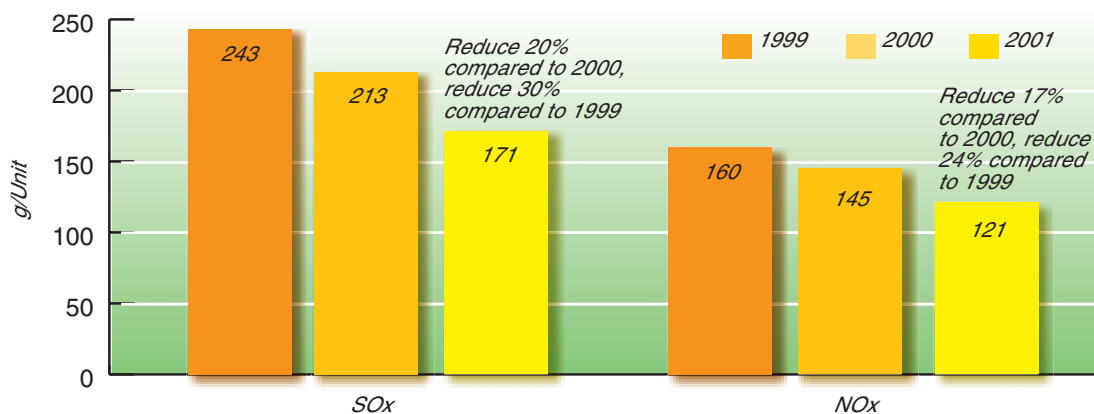
The following figure shows the average annual VOCs emitted from the site per unit area of car painted. This data is calculated as a mass balance, based on the total amount of VOCs-containing materials used at the site, with allowance for removal by the RTO.

Diagram 5- Average Value for VOCs Discharge between 1997~June 2002



This table shows the VOCs emissions in mass per area of car painted. In 1997 the result was 118.7g/m². Through the efforts of the workers in the coating factory, the value has gradually reduced to 85.9 g/m² in 2001; giving a 27% improvement

Diagram 6- SO_x and NO_x discharge from the Boiler process



The data are from regular test(air emissions test) by the certified inspection and testing institution for each year.



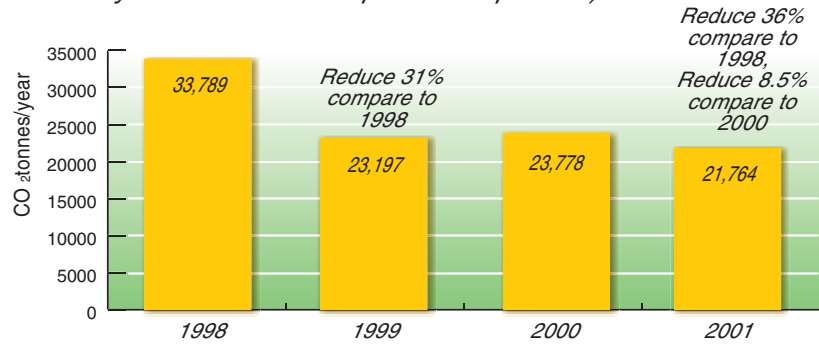


6.2 Wastewater Control

Wastewater produced from Ford Lio Ho's Manufacturing operations and site sanitary wastewater is treated on site in Chemical and Biological wastewater treatment plant, before being discharged to surface water. The site has a permit for discharge of treated wastewater, which involves regular inspections, monitoring and discharge limits. Parameters that require monitoring include metals, COD, pH and suspended solids.

The chemical wastewater treatment plant operates on a batch basis. Process wastewater is collected in tanks and tested in the on-site laboratory before treatment, to optimize the wastewater treatment chemicals

Diagram 7- Total Carbon Dioxide Emission in 1998~2001 (from electricity and fuel oil use on production process)

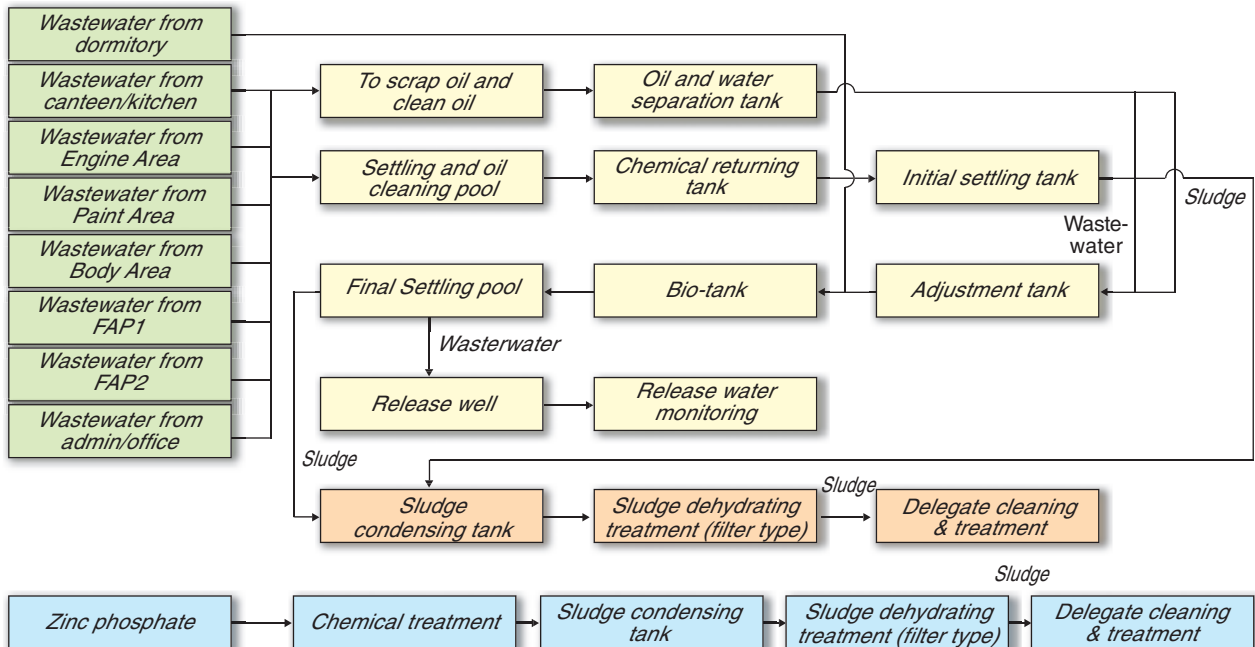


and minimize the amount of sludge produced. The wastewater treatment process is shown in the next figure.

The treatment plant design capacity is 2486 tons/day. Currently it treats from 1000 - 1250 tons/day of wastewater,

with a maximum volume recorded to date of 1697 tons/day. A pH meter is installed at the wastewater entry point to monitor whether the entering wastewater has been abnormally discharged from the site. A series of pH meters are installed at the exit

Wastewater Plant Treatment Flowchart



well to monitor the discharge and check changes in the pH value to identify and prevent any abnormal discharge.

Improvements that have been made to the wastewater

collection and treatment system over the years include diversion of rainwater away from the wastewater treatment plant to prevent overloading. In 1994, a separate zinc phosphate

wastewater collection and treatment system was added at the wastewater treatment plant. Zinc phosphate wastewater from the painting process has elevated concentrations of metals. By





treating the zinc phosphate wastewater separately, the quantity of chemicals used is reduced and hence the amount of hazardous sludge produced was reduced by 90%.

There are two sludge drying systems in the wastewater treatment plant, one filter press to treat the main wastewater sludge, and a plate frame sludge drier to treat zinc phosphate sludge. Currently the site generates approximately 950 kg/day of non-hazardous sludge, and 100 kg/day of hazardous sludge.



Wastewater treatment plant

In December 2001, a separate drainage system was installed around the wastewater treatment plant and general waste storage

area to collect rainwater run-off and direct it to the wastewater treatment plant. This is a major step in ensuring that only clean rainwater is discharged to the

site's surface water drains. There are seven rainwater outlets from the Ford Lio Ho site, and these are monitored quarterly to check on discharge quality.

Table 8- Wastewater Discharge Quantity and Quality

Tested Items	Ford Lio Ho Control Standard	Average in 1999	Average in 2000	Average in 2001	Average in June 2002
Discharged Water Quantity (M ³ /unit)	9.0	6.2	6.5	7.9	6.9
Chemical Oxygen Demand (g/unit)	500	133	188	218	205
Suspended Solid(g/unit)	140	46	77	88	82

Table 9: Discharged Water Quality List

Tested Items	Standard of EPA	Ford Lio Ho Control Standard	Average in 1999	Average in 2000	Average in 2001	Average in June 2002
Chemical Oxygen Demand (mg/L)	100	70	21.1	29.0	28.0	29.8
Suspended Solid (mg/L)	30	20	7.2	11.8	11.2	11.9
Zinc (mg/L)	5.0	2.5	0.320	0.314	0.117	0.10
Nickel (mg/L)	1.0	0.5	0.291	0.143	0.130	0.11
Fluoride (mg/L)	15	5.0	1.463	1.334	0.503	0.37
Copper (mg/L)	3.0	1.0	ND	ND	ND	ND

"ND" indicates testing value being lower than the limit of detection





6.3 Solid Waste

Ford Lio Ho introduced waste minimization in its production process, in the use of raw materials and packaging materials as early as 1991. In recent years, it has focused on the classification and recycling of waste, aiming to reduce the impact on the environment through reduction in waste. Solid waste in this company is divided into general industrial waste and hazardous industrial waste. The general industrial waste is further divided into recyclable items and items that need to be disposed or treated.

Resource recycling is an important item in environmental protection. To facilitate the work of resource recycling, we have encouraged employees at all levels to change their habits. Now, employees in administrative buildings do not have their own rubbish bins, instead they use central bins set up for plastics, glass, paper, cans, food and general waste. In the manufacturing areas, relevant resource recycling bins and rubbish bins are set up depending on the nature of operations on each line.

In another resources recycling project, site maintenance workers are using waste pallet bases from packing components to design and produce a rest area with their own team's unique features. Personnel in plant engineering convert waste pallets into cupboards, desks and cabinets, converting the waste into useful objects and fully utilizing resources.

Measures have been planned or implemented to reduce the quantity of waste from packaging materials for automobile components. These are discussed further in the Chapter on Green Productivity Demonstration Program.

Due to different color schemes, the spray guns and pipes need to be cleaned during the process of changing paint colors in order to eliminate the remaining paint in the spray guns and pipes. For this reason, a large amount of solvent agents need to be used. In view of the impact of solvent usage on VOCs emissions and the difficulty of disposing of them, the company decided to install waste solvent recycling devices and piping. Waste solvents produced from cleaning of spraying guns and pipes before color changes are guided into a funnel before flowing into a waste solvent recycling device. The waste solvents collected in the device are then distilled and recycled. The distilled solvents are used by on-site maintenance staff for equipment cleaning purposes. In this way, the quantity of solvents purchased has been reduced by about 40%. The recycling of waste solvents has also helped to reduce the impact on wastewater. As a result, the costs for the handling of wastewater have also been reduced.



Foldable recycling frames replace wooden pallets, to reduce the production of waste

Waste solvent recycle equipment





Example Waste Reuse Initiatives:

The waste oil produced from the kitchen is recycled. Staff from the environment protection project obtained methods for recycling waste oil from the Housewives Alliance web page and used sodium hydroxide solution to make simple soap through saponification, providing it to staff to use on site and to take home to use as household cleaning products.

The company has a staff canteen, providing three meals a day for employees. The kitchen and canteen leftovers amount to 300 kilograms every day. In the past, leftovers from the kitchen were supplied to pig farmers for pig food. In 2001, a fermented for kitchen leftovers was purchased to turn leftovers into useful organic fertilizers by means of decomposition by microorganisms, high temperature sterilization, and rapid fermentation. The company has established an organic vegetable garden to grow various vegetables for its staff with the self-made organic fertilizers. The organic fertilizers are also used on flowers and plants in the company gardens. In this way, it has reduced the handling cost for around 54 tons of waste. In addition, all organic fertilizers made from canteen leftovers are used on the organic vegetable garden, without causing any chemical impact.



Fermented for kitchen leftovers processes leftovers of the kitchen



Organic vegetable garden is opened up to grow various vegetables with self-made organic fertilizers

The Automotive Consumer Service Group also promotes "Waste Minimization and Resources Recycle" activities to each dealership based on the experience of the Ford Lio Ho Motor Company in promoting resources recycle and reuse. The results of two measures are described briefly as follows.

(I) Recycle and repair of old transmission units

Approximately 720 old transmission units are returned to Dealers each year. Where possible, these are now repaired & reused, saving approximately 43 tones of waste and NT\$13 million.

(II) Collection and recycling of used machine oil bottles

Approximately 840,000 used machine oil bottles are generated per year, which have 50ml of oil left in them. By collecting these, recycling the oil & selling the empty bottles, approximately 42m³ of oil are removed from waste disposal, with a total economic benefit of approximately NT\$14 million per year.





Diagram 9: Total Waste Quantities (recycled & disposed off-site) in 1998~2001

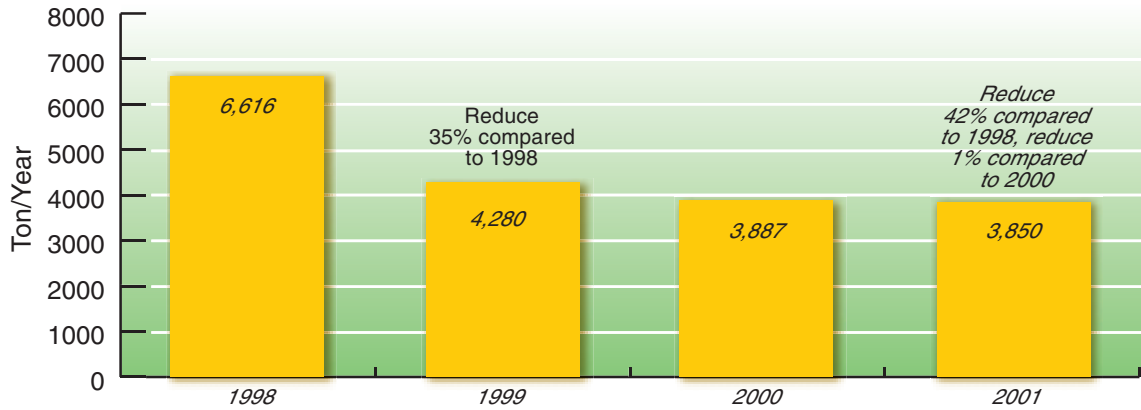


Diagram 10- Recycled waste per unit in 1998~June 2002

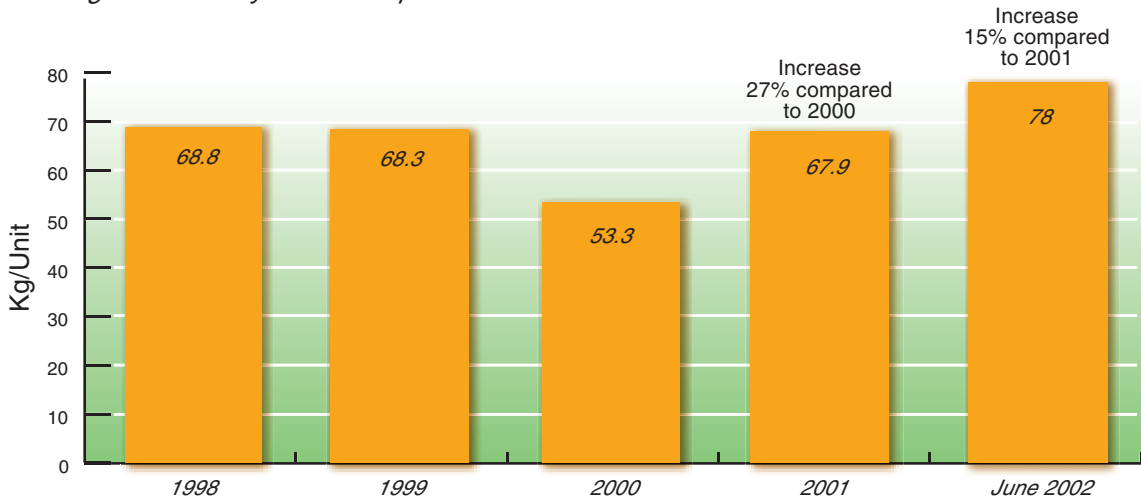


Table 10- Recycle quantity (kg) per product unit in 1998-June 2002

Waste item	1998	1999	2000	2001	2002 (June)	Improvement% (1998-2002)
Waste cardboard	19.7	17.6	13.2	18.75	27.79	42%
Waste plastic	1.22	2.37	2.10	2.19	2.10	72%
Scrap metal, iron chipping/aluminum chipping	16.93	20.19	18.94	22.31	24.64	46%





6.4 Noise & Control of Substances of Concern

The air compression room is adjacent to the community. In order to reduce the noise impact to our neighbors due to operation of the air compressors, sound insulation was added in the air compressor room in 1995. Other improvements to control noise made at the site include installation of a sound insulation wall around the cooling water towers and noise insulation facility in the high-pressure water cleaning. Every year, noise monitoring at 6 locations around the site boundary to check the effectiveness of noise control methods.

Sound insulation facility is installed in the air compressor room to prevent noise from disturbing nearby communities.

Ford Lio Ho Motor Company controls substances of concern in line with the Taiwan EPA "Poisonous Chemical Material Management Method", labor safety laws, and the Ford Motor Company Restricted Substances Management Standard (RSMS). RSMS is the standard that all production and non-production material, components and parts purchased by the Ford Company must meet. It covers over 10,000 types of chemical substances, divided into 3 control methods of prohibited use, restricted use and reporting based on their environment and health impacts. Suppliers are required to consider prudently the impact on environment by the use of raw material during the manufacturing process, and also improve the recycle and reuse rate of automobiles.

Polychlorinated Biphenyls (PCBs) are a hazardous industrial waste, which have specific controls for handling, disposal and treatment. PCBs have very good insulating properties and were used as coolants and lubricants in electrical transformers. PCBs



Sound insulation facility is installed in the air compressor room to prevent noise from disturbing nearby communities

however, persist in the environment due to their ability to resist chemical and physical breakdown. At Ford Lio Ho, all transformers and capacitors containing (over 50ppm PCBs) were gradually cleaned by qualified cleaning organisations from 1998~1999, in accordance with EPA regulations.

Historically CrO₃ (Chromium (VI) trioxide) was used in the pre-treatment of car bodies before painting. Chromium (VI) was identified as a substance of concern, and by December 1998 was eliminated from the production process at Ford Lio Ho by changing over to alternative less hazardous chemicals.

All employees on site have received hazardous substances knowledge training. All suppliers are required to provide Material Safety Data Sheets (MSDS) with their products, which must also be delivered in properly labeled containers, to help staff using chemicals to understand and identify any potential hazards easily and conveniently.



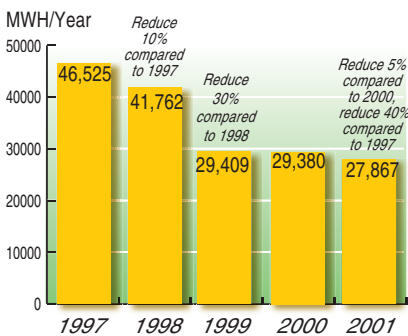


6.5 Energy and Water Control

Energy Efficiency

With the aim of reducing consumption of electricity in vehicle production, the Ford Lio Ho Motor Company has set up Energy Management Teams of supervisors at its plants. The production managers and maintenance supervisors of the plants are in charge of establishing the standard for the control of electricity consumption in the plants. Various electricity-

Diagram 11- Electricity usage in 1997-2001



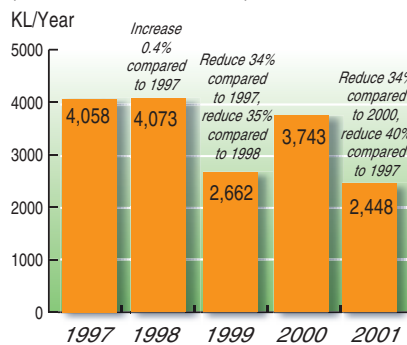
saving measures have been put into place, such as load and peak management, replacement with high-efficiency and energy-saving equipment, the establishment of procedures for energy efficient management, air-compressor shut-off control over holiday periods, detection of air leakage in air piping systems on a monthly basis, regular inspection and repair by the maintenance and plant utilities team, reduction of the contract capacity with the Taiwan Power Company, promotion of electricity saving

and proper electricity use in offices. As a result, The total electricity consumption has been reduced 40% from 46,525 MWH in 1997 to 27,867 MWH in 2001.

One of the major environmental impacts of electricity production and use is the generation of greenhouse gases. The Taiwan Power Company provides the following estimates:

- 1 It uses 265kg of crude oil to generate 1000 kWh of electricity.
- 2 Use of 1kWh of electricity generates 0.51 kg of carbon dioxide.

Diagram 12- Fuel oil usage in 1997-2001 (include diesel- boiler oil)



Based on these assumptions, Ford Lio Ho's electricity reduction has resulted in a reduction in generation of greenhouse gas of 18kg/unit from 1997 to 2001. This means that the total annual emissions of carbon dioxide have been reduced from 27,450 tons in 1996 to 14,208 tons in 2001.

Water Resources Control

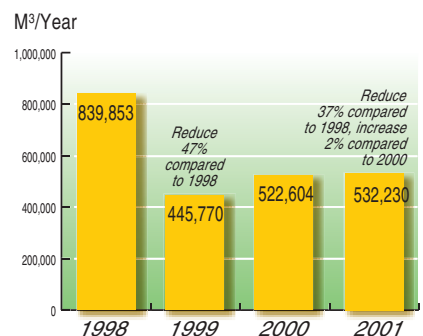
The vast majority of Ford Lio Ho's water supply is from 5 deep groundwater wells along the eastern boundary of the site. The extracted groundwater is pumped to a header tank, and then fed by gravity through a network of underground pipes to all areas of the site. Municipal water is used for domestic purposes only.

Since 1996, a focus was put on reducing water usage at the site. Opportunities for recycling and reuse were identified, including recycle the water of spray booth, used the effluent to clean the filter of sludge dryer, etc.

With these improvements, the consumption of groundwater was reduced from 839,853 m³ per year in 1998 to 532,230 m³ per year in 2001. The small upward trend in water consumption since 2000 is in part due to an increased need to clean bee-droppings from cars stored on site. In addition, the network of underground pipes is aged, and the company has identified the likelihood that a proportion of the groundwater is leaking into stormwater trenches and the surface soil. The company is putting in place a plan to identify the location of these leaks &

address them, in order to eliminate this over-use of natural resources.

Diagram 13: Consumption of groundwater in 1998-2001





6.6 Establishment of Environmental Cost Accounting System

The environment protection accounting system implemented by Ford Lio Ho is to monitor the cost and results in environment protection activities. Currently there is not a unanimous

international standard for the environment protection accounting system, therefore Ford Lio Ho, based on the current situation, has set up and developed a preliminary environment protection accounting system. The following report includes cost from 1981 up to 2001. For the

future, we will continue to expand the scope of cost data, improve precision and assess the costs and benefits of more projects. The following table is the environment protection costs in NT\$ since 1981, including the set up, improvement, operation and maintenance of environment impact prevention equipment.

Name of facilities/activities		Establishment Year	Set up cost	Operation & maintenance cost/year (Average of 1999 and 2000 costs)	Achievements
Water discharge prevention expenses	Set up wastewater treatment plant and collection pipeline project	1981~1995	87,000,000	12,400,000	Chemical treatment and biological treatment
	Treatment system for zinc phosphate waste water	1994	7,800,000		Collected by dedicated pipeline for hazardous heavy metal waste water, solid and liquid in sludge are separated and are chemically treated
Air emission prevention expenses	RTO	1995	96,000,000	3,940,000	Collect volatile organic substances produced by ovens in coating plant
	Installation of air discharge stacks	1996	5,000,000		Meeting the requirements in legislation
	MET Station installed	2001	315,000		To measure wind direction and wind speed
	Air emission prevention fee	Quarterly Fee		150,000	Meeting the requirements in legislation
Waste treatment and disposal expenses	Purchase of reusable containers for components	1992~1995	110,000,000		Imported packaging materials are to be changed to containers to reduce the production of waste materials
	On-site facilities for waste storage, recycling & disposal	1992	3,400,000	2,400,000	Institutional waste is to be collected separately, cleaned and treated, and resources recycled
	Waste solvent recycling facilities	1996	4,400,000	490,000	Waste solvent produced from cleaning sprayers is to be recycled and treated by distilling and to be reused
	Clean and dispose of PCB waste material	1998~1999	2,200,000		Meeting the requirements in legislation
	Fermenter for kitchen leftovers	2001	270,000		The food scraps produced by the company kitchen are treated and reused through heat fermentation
Noise control	Air compressor room noise prevention project	1995	8,000,000	50,000	Using noise suppression materials to absorb the noise produced from running of machinery
	Noise prevention project in high pressure washing area	2000	1,100,000		Install noise suppression materials to absorb the noise produced from high pressure washing
Management activities cost	Landscaping in the factory area	2000	500,000		Landscaping the environment
	Install bunding for chemical and oil storage. Annual check & cleaning	Proceed Every Year	360,000	48,000	Prevent abnormal leakage
	ISO14001 Surveillance and Re-certification Audits	1997		70,000	Environment protection system accreditation
	Education, training - environment	Every Year		520,000	150
	Cost for environment monitoring	Annual		1,820,000	Meeting the requirements in legislation
	Colouring activities on World Earth Day	2001		300,000	Corporate Citizenship
Social activities cost					
Total			326,345,000	22,188,000	





6.7 Promote environmental protection to offices

The Environment Protection Project Team of the Manufacturing Division is responsible for planning the work in promoting offices to engage in environmental protection, and promotion and guiding teams have been established, headed by the Vice President/division chief of each division. Regular meetings are held to review progress of each item of work and promote greening office and beautification activities in an all-round manner.

For example, implementing non-paper meeting notification and announcement issuing, using internal document bag repeatedly, stopping use of disposable cups and purchasing publicly used cups, turning off lights of offices and corridors whenever necessary, planting trees and flowers around the office, greening of toilets and putting up hand-made wall painting, checking tap and flushing facilities of toilets regularly, etc. The Environment Protection Team conducts promotion and gives guidance

and regularly releases information relevant to environmental protection and resources recycling. The achievements promoted by the Manufacturing Division in 2000 were recognized by the EPA, winning the prize of Outstanding Work Unit for Offices Engaging in Environmental Protection. In 2001, the Automotive Consumer Services Group Division also won the prize as Outstanding Work Unit for Offices Engaging in Environmental Protection.



Manufacturing Division was awarded with the Outstanding Work Unit Engaging in Environmental Protection in Offices in 2000 -Vice President of the Manufacturing Division Ringo D. L. Lin received the award



Automotive Consumer Service Group was awarded with the Outstanding Work Unit Engaging in Environmental Protection in Offices in 2001, Vice President of Automotive Consumer Service Group, Steven Chang received the award





6.8 2002, 2003 Environmental Plans, Programs and Targets

Environment Improvement Plan of the Ford Lio Ho Company

<i>Impact Group</i>	<i>Objective</i>	<i>Targets</i>	<i>Review Date</i>
<i>Air emission</i>	<i>Reduce the emission of volatile organic compounds</i>	<i>Reduce emission of VOCs to 90g/m²(CAD)</i>	<i>4th Quarter 2002</i>
		<i>Change to non-lead painting by the end of 2002</i>	<i>4th Quarter 2002</i>
		<i>Reduce RTO breakdown, the frequency of breakdown should be less than 5 times every year, and less than 24 hours every time</i>	<i>4th Quarter 2002</i>
	<i>Reduce the Green house gases</i>	<i>Reduce emission of carbon dioxide from the site by 2% per unit (based on 2001)</i>	<i>4th Quarter 2002</i>
<i>Waste</i>	<i>Conform to waste disposal Act</i>	<i>Renew the storage area of solid waste</i>	<i>4th Quarter 2002</i>
	<i>Increase recyclable package material and reduce waste</i>	<i>Improve the recycle and classification of solid waste, set the target of reducing 25% of the amount of waste produced per unit by the end of 2004 (based on 2001)</i>	<i>4th Quarter 2002 4th Quarter 2003 4th Quarter 2004</i>
<i>Waste Water</i>	<i>Conform to water pollution prevention Act</i>	<i>Set the discharge concentration of COD: 66mg/L</i>	<i>4th Quarter 2002</i>
		<i>Set the discharge concentration of SS: 19mg/L</i>	
		<i>Set discharge quantities of COD: 207g/unit</i>	
		<i>Set discharge quantities of SS: 84g/unit</i>	
		<i>Set the discharge volume of wastewater: 6.76M³/unit</i>	
<i>Stormwater, groundwater and soil</i>	<i>Conform to soil/groundwater pollution remediation Act</i>	<i>Confirm that soil/groundwater of the whole factory conforms to requirement by laws and regulations</i>	<i>4th Quarter 2002 4th Quarter 2003</i>
<i>Resources Conservation</i>	<i>Improve energy resources efficiency</i>	<i>Set the annual target for diesel fuel and heavy oil, reduce 1% of oil consumption per unit based on 2001</i>	<i>4th Quarter 2002</i>
		<i>Set the reduction at 3% for paper consumption per unit based on 2001</i>	<i>4th Quarter 2002</i>
		<i>Set the annual target for compressed air, reduce 2% for electricity consumption per unit based on 2001</i>	<i>4th Quarter 2002</i>
		<i>Set the annual target for electricity consumption by the whole company at a reduction of 2% per unit based on 2001</i>	<i>4th Quarter 2002</i>
		<i>Reduce water consumption by 3% based on 2000 level. The target for 2003 is 8.63 tons/unit</i>	<i>4th Quarter 2002 4th Quarter 2003</i>
<i>Compliance</i>	<i>Guarantee that it conforms to requirement by environmental protection laws and regulations and promise made by the company</i>	<i>Conform to conditions of environmental protection approval</i>	<i>4th Quarter 2002</i>
		<i>Continue to maintain ISO 14001 certification</i>	<i>2nd Quarter 2002 2nd Quarter 2003 2nd Quarter 2004</i>





Chapter 7: The Promotion of Green Productivity Demonstration Program

"Green Productivity" is a concept raised by the Asia Productivity Organization (APO) in 1994. Its emphasis is on the combination of improving productivity and protecting environment. Its complete definition is that, green productivity is a strategy for strengthening productivity and environment performance, the purpose is for the development of overall social economy. It applies proper techniques, science, technology and management systems to produce environmentally friendly products and services.

"Green Productivity" is a concept that originated from the two main forces of sustainable development - "continuous improvement of productivity" and "effective protection of environmental resources". Its target is to improve production efficiency and environment together. "Green Productivity" teaches enterprises to start from

the simplest internal management and waste classification and then consider relatively more complicated process improvements, recycling and reuse. It helps to reduce the amount of wastewater, air emissions and solid waste. After that, the production of hazardous wastes can be reduced by the means of proper selection of raw material - low emission & non hazardous to replace substances of concern in raw materials. Finally, the most appropriate end-of-pipe processing is conducted on the emissions left from the very strict waste minimization, so the investment on emission control can be reduced significantly.

In 2001, the Ford Lio Ho Company has been operating as a "Green Productivity Demonstration Program" held by the Industrial Development Bureau of MOEA, aiming to reduce the impact to the environment during economic

development processes through improving resource use efficiency and energy productivity. Ford Lio Ho first established "Green Productivity" promotion team, to identify the main objectives for executing the "Green Productivity" demonstration program. The implementation key points are divided into four major parts, first is process improvement, second green procurement, third green marketing, and fourth design for environment.

7.1 Process improvement

In order to reduce the production of emissions and wastes in the manufacturing process, our company has adopted related measures, including: reducing the amount of substance of concern in surface coating, reduction of packaging material, recycling and energy saving. The process technical innovation plans are as follows:

Project Name	Execution Method	Related Benefits
Improvement of manual spraying operation	Spray gun in manual operation changed from High Volume Low Pressure to Low Volume Medium Pressure	Raise spraying and coating efficiency, reduce the use of raw material
Pre-processing operation temperature reduction	Introduce low-temperature film for Zinc Phosphate pre-treatment process	The pre-processing operation temperature reduces from 55°C to 45°C, reducing the use of boiler oil and emission of carbon dioxide
Reduce amount of Basecoat used	Adopt automatic spraying and color-changing, to optimize automatic spraying equipment parameters	Reduce the amount of coating used, save the cost of raw material
Introduce non-lead ED paint	Change antirust basecoat from lead coating to non-lead coating	Conform to Ford Restricted Substances Management Standard (RSMS)
Recycle of spraying cleaning solvent	Implement automatic spraying color-changing mechanism and solvent/coating recycle plan. Coatings of the same color should be sprayed together, and before changing color, collect solvent left on spray gun and in piping for recycling.	Reduce the production and processing expenses of waste solvent/coating, and improve waste water quality and waste water processing expenses





7.2 Green procurement

Green procurement has two meanings, first, producers adopt relatively environmentally friendly raw material, products and services, and secondly, consumers require more

environmentally friendly products and services. The Ford Lio Ho Motor Company uses the first requirement to carry out self-improvement, and the Procurement Department adopts the following for management.

Project Name	Execution Method	Related Benefits
Plastic parts mark listed in the procurement plan	Require design department to confirm regulations on the mark and suppliers to cooperate during contracting procedures, and also list in items that ask the technical assistance department of suppliers to give confirmation on delivery, checking and acceptance	Make discarded products easy to be recycled according to the mark
Implement Ford Restricted Substances Management Standard (RSMS)	Implement RSMS to control use of substances of concern (e.g. heavy metals). Enforce requirement through procurement agreements	Reduce impact on the environment, improve enterprise image
Poly Urethane (PU) system recycle, to reduce PU waste from suppliers (used in seat filling)	Provide training (with BASF) to suppliers on recycling methods for PU, and encourage suppliers to implement recycling & reuse methods for PU.	Improve resources recycle rate, reduce waste handling cost
Suppliers ISO 14001 establishment	Suppliers ISO 14001 establishment Require and assist all suppliers (presently 85) to receive ISO 14001 accreditation before July, 2003	Improve Ford system environmental protection enterprise image, introduce continuous improvement systems

7.3 Green marketing

In terms of green marketing, considering the public awareness of benefits of green design for cars, our company mainly

promotes "Design for Environment" in "Green Productivity" plan. The following lists measures adopted by the Public Affairs Department.

Program Name	Execution Method	Related Benefits
Automobile Technology Forum	Held Automobile Technology Forum on Jan. 24~25, 2002, to introduce Ford Motor Company's efforts in product environmental design, invite specialists, scholars, media and companies from the same trade to discuss future direction for this industry, and also the direction in environmental protection for common efforts	Improve enterprise social image, convey green product concept





7.4 Design for Environment (DfE)

In order to increase the recyclable rate of automobiles,

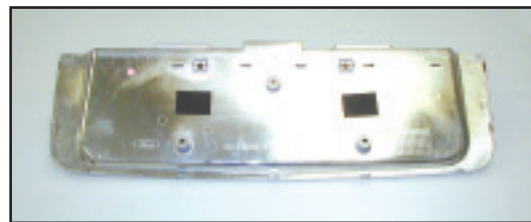
the Ford Lio Ho Motor Company has introduced the concept of DfE during the design phase. This concept includes the

recycling and minimization of material, control substances of concern, selection of recyclable material, and parts marking.

Program Name	Execution Method	Related Benefits
For parts using chromate coating, use double mold to replace single mold	For parts undergoing local chromate coating, evaluate Cr+3 and other alternative material, also use parts of composite material to replace single one, thus reducing the total surface for chromate coating.	Reduce the amount of Cr+6 used
Use other material to replace Cr+6		
Use Cr+3 electroplating to replace Cr+6 trial plan		
Total amount control Cr+6 plan		
Implement parts marking according to Ford Internal Standard E-4 for locally made parts	Audit each locally made part against the design drawings for conformance with part marking requirements.	Make the product easy to be recycled, provide feasible guidelines for future automobiles in recycle handling
Use PU or other alternative to replace PVC	Use recyclable PU material as the development direction, to replace non-recyclable PVC materials.	Reduce waste
Consider the increase of recyclable rate when designing products (easy to be taken apart, simplified material)	During the initial stage of product design, try to simplify the material and make it easy to be taken apart, also consider the recycle possibility for discarded automobile	Make the product easy to be recycled, provide feasible guidelines of future recycle handling
Reusable packaging material design	Replace the formerly used wooden pallet by iron pallet that can be repeatedly used, and adopt folding returnable shelving and reuseable plastic wrapping	Reduce cost for purchasing wooden pallet, increase storage space, and reduce waste
TIERRA LS export reusable packaging material design	Use reusable plastic wrapping for packaging for exported vehicles	Reduce waste handling and packaging material expenses
Newly built design and R&D center building considering environmental protection	Install solar water heater on the newly built building, to provide hot water for the building	Save electricity & conserve natural resources
	Install wind power generator bon the newly built building, to provide part of power to the building	



Chromate treatment parts alternative plan -chromate treatment material replacement to reduce use of substances of concern



Marking of automobile parts material -easy to be classified after the vehicle is discarded





7.5 Promotion of "Green Productivity" education and training

Taiwan Environmental Management Association (TEMA), who takes the lead to promote "Green Productivity" plan, has arranged related education and training to help the company and suppliers participating in the plan to understand the meaning and

ideas contained in "Green Productivity", with experts and scholars from Taiwan and other countries invited. It covers ten themes, and there are 92 people from the Procurement, Taiwan Product Development, and Manufacturing Department of the Ford Lio Ho, 25 people from suppliers. The courses include Environmental Performance Evaluation and Indicator System Introduction, Design for Environment, Vehicle recycling

Environmentally Friendly Extent of Products through Chromate Coating Technique, How to Improve the Environmentally Friendly Extent of PU Material in Car Industry, and Trend of DfE, and Strategy of Life Cycle Evaluation in the Industrial Circle. Presently, the implementation of vehicle recycling in our country is limited at the final disposal level of discarded vehicles, as the technology and facilities have not been implemented to date. For the purpose of "DfE to promote vehicle recycle", Dr. Claudia M. Duranceau, expert of Worldwide Vehicle Recycling, Ford Motor Company accepted an invitation by TEMA and Institute of Environment and Resource to come to Taiwan, and introduce and share experiences on implementing resources recycling in the USA car industry and the results of cooperating to promote vehicle recycling. She also gave examples of techniques and strategies to improve vehicle recycling achievements.

and substances of concern, discussion with GDPD team members for hex-chromate coating, Restricted Substances Management Standard (RSMS), International Material Data System (IMDS) and Enterprise Managed Materials (EMM), Examples and Strategies for Car Industry to Improve VOCs Emission, How to Improve

Ford goes 'green' with company-wide philosophy

By Billy Chamberlain
The China Post

With environmental concerns driving new innovation in automobile development, the Ford Motor Company and its Taiwan branch, Ford Lio Ho, have recently been active in promoting the company's "green" technology.

Car manufacturers worldwide have been racing to develop alternative fueled vehicles, electric vehicles and zero-emission vehicles as emission standards continue to rise. But so far, consumers have yet to embrace the new vehicles in part because of the limited distance they are able to cover before needing to refuel, or recharge, and because of a decrease in performance compared with gasoline automobiles.

Still, Ford has made its "green" philosophy an integral part of its overall strategy, said Dr. Claudia Duranceau, a senior research engineer for Ford's worldwide recycling planning department, by bringing green technology beyond car emissions.

This strategy comes in the form of more environmentally friendly automobile production, from lead-free paint and low emission painting to a lowering of the temperature at which cars are baked to dry the paint, resulting in a decrease in fuel consumed.

For Taiwan in particular, attempts are being made by Ford Lio Ho to increase the percentage of cars that are recycled once they are disposed of. Ford has made attempts to increase the total number of recyclable parts in their cars, with the popular Mondeo and Focus models being 85 percent recyclable.

While the United States has a market-driven recycling industry and Europe recycles cars in response to legislation, Jeffrey Shen, Ford Lio Ho's vice president for sales and marketing, said Taiwan is still operating on a voluntary basis. He also said that most of the infrastructure for automobile recycling is already in place, allowing cars in Taiwan to be recycled efficiently and quickly.

To handle automobile recycling, the Taiwan government has set up a Waste Vehicle Disposal Foundation, funded in part by island-wide car sales. Part of the program is to encourage public awareness, said Shen, still minimal public awareness. Lio Ho's efforts in its overall environmental program resulted in its nomination "Green Productivity Demonstration Factory of the Year" by the Ministry of Economic Affairs and awards for industrial waste minimization.

The information from The China Post 9/06/2001



Claudia Duranceau, senior research engineer of Ford's Worldwide Recycling Planning team, says auto parts recycling is big business in North America. Taiwan News

The information from Taiwan News 9/06/2001



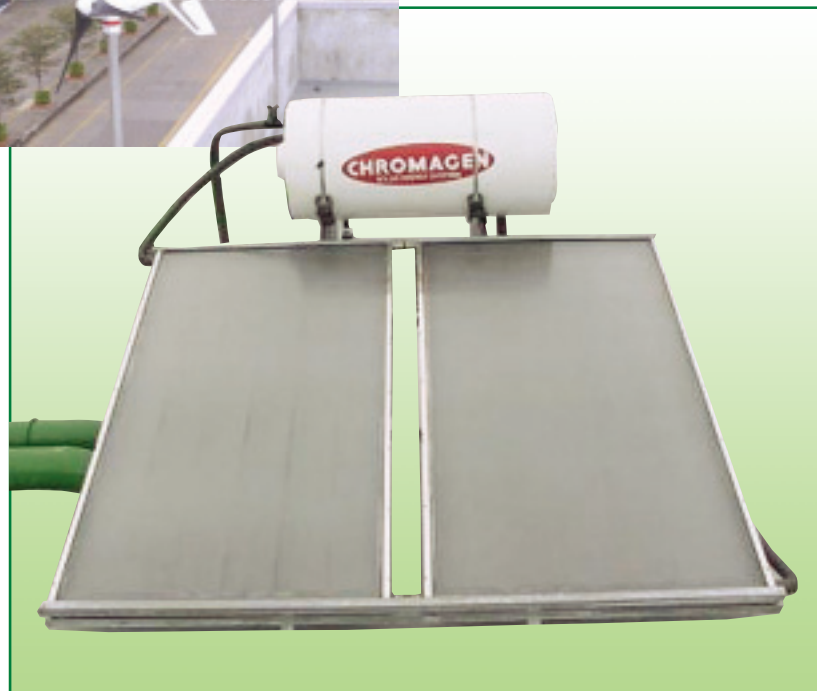


7.6 Green Building - Office Building of the Design & Research Centre

The design of the office building for the Design & Research Center features a combination of "intelligence, environmental protection, science and technology and personalization". In respect to environmental protection, the flower bed around the building was constructed with eco-bricks, which were made, in cooperation with external companies, from a mixture of brick-making raw material and inorganic sludge (non-hazardous) produced by the company's wastewater handling plant (the sludge making up 20%). Wind power generating facilities are installed in the building, with 8 wind power generators installed around the roof of the office building. Each generator provides 400W of

electricity for relevant lighting facilities. The solar water heater installed on the roof features ultrahigh heat collecting efficiency and low heat loss design, supplying hot water to all floors throughout the day. The heater automatically turns on when the water temperature falls below a preset value, and turns off when the temperature exceeds the default setting, thus providing a more comfortable work environment for employees. Infrared sensor lighting is installed in the stairwells of all floors and the front footpath. The infrared sensor lighting turns on when it detects people approaching. After people leave, it will wait for a preset delay period before it automatically turns off. Such lighting equipment features safety, personalization and electricity saving. The work area of the Design Center has been designed to be under a constant temperature (20 degrees) 24 hours a day. Such control ensures the precision of clay models, and provides a stable temperature for the work environment for relevant precision platforms, 3D engraving machine and measurement equipment.

Wind power generator



Solar water heater





7.7 Performance of GPDP

Saving Item		Saving Cost	Total
Ford Lio Ho	A- Electricity	1. NT\$ 20,800/year	NT\$ 29,235,998/year
	B- Fuel oil (Boiler oil,Diesel)	2. NT\$ 2,034,755/year	
	C- Paint material	3. NT\$ 16,286,405/year	
	D- Solvent	4. NT\$ 2,157,600/year	
	E- Waste disposal	5. NT\$ 190,320/year	
	F- Package	6. NT\$ 8,546,118/year	
Suppliers	A- Raw material	1. NT\$ 790,000/year	NT\$ 1,000,000/year
	B- Waste disposal	2. NT\$ 210,000/year	





Index to Global Reporting Initiative Indicators (GRI)

Below is a cross reference between indicators recommended by the Global Reporting Initiative Sustainability Reporting Guidelines (June 2000) and the sections where they can be found in this report.

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Sponsored by the Industrial Development Bureau of the Ministry of Economic Affairs, the Ford Lio Ho Motor Company has prepared for a whole year, and having decided its direction, defined its performance indicators, collected data, and gathered feedback, now the first issue of its Corporate Environmental Report has finally been finished and will be published, to share and pass on the valuable experience that it has gained.

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*Looking to the future,
the subject of the environment will
become increasingly important
as more people become aware of the possible
environmental impacts of our daily lives.*

*Ford Lio Ho will continue to make efforts
to develop products and processes
that are more environmentally friendly.
We will endeavor to reduce the impact
on the environment from our operations and
conduct environment improvement actions.*

*We commit to meeting and even exceeding
the environmental objectives and targets
that we have set for ourselves in this
Corporate Environmental Report.*

President Jeffrey Shen

Ford Motor Company



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