2005

Environmental, Safety and Health Annual Report

Continuous Growth and Corporate Sustainability

Taiwan Semiconductor Manufacturing Company Limited

1. This annual report covers ESH statistics of Fabs 2, 3, 5, 6, 7, 8, 12 and 14.

2. Comparing the ESH performance covered by this annual report with that of other industries is not recommended.

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1 A Letter From the President

2005 was an encouraging year for TSMC. TSMC not only set the record of continuously making profits for 16 years, but our November monthly revenue also reached an all-time high of NT$27.5 billion. In terms of technology, TSMC innovated the use of immersion lithography that employs water as the medium, which dominated 50% of the 90nm wafer market, was successful in 65nm wafer trial production and has been introduced into the 45nm process. In addition to the continuation of the corporate culture of "ICIC" - "Integrity", "Customers Are Partners", "Innovation" and "Commitment" - technical staff are required to understand marketing and customer services, to identify customers' needs personally and to formulate customer satisfaction measurement indicators to our competitiveness and our lead in the market.

To ensure "continuous growth" and "corporate sustainability", TSMC fabs passed ESH management system certifications in 1996 and 2000 in order to reduce the impact and risk caused by production and related activities. In 2001, TSMC voluntarily committed to reduce emission of PFCs and began to hold annual "Supply Chain Management Forums" for suppliers and contractors to exchange their experiences and learning on production, environmental protection, safety and health.

In 2004, along with our major material suppliers, TSMC participated in the "Green Supply Chain Project" organized by the Bureau of Industrial Development. The purpose of the project is to extend our green production efforts up- and down-stream and create a situation where TSMC, our customers and our suppliers all benefit.

1 A Letter From the President

Furthermore, TSMC has spared no effort in our endeavor of safety and health improvement. TSMC in recent years has continually established a new machinery seismic protection system and a new chemical risk evaluation system, promoted employees' home and commute safety, and initiated an extensive ergonomic engineering project and the SARS prevention project. TSMC has also completed a series of anti-seismic evaluations and upgrades for existing buildings and machines. In 2005, TSMC began to rigorously follow operational procedures for high-risk situations and the "Contractor OHSAS18001 Certification" plan. In addition, TSMC formed an "Avian Flu Prevention Project" in response to the possible risks of bird flu.

2005 witnessed the selection of TSMC as the leading recipient of "Taiwan's Top Ten Enterprises of Happiness" and "Corporate Social Responsibility Award". This illustrated the success of our "continuous growth" and "corporate sustainability". Thank you for your support and assistance. Together, we will create an even brighter future!

Dr. Rick Tsai
President and CEO
May 2006

2 Company Profile

TSMC is the world's largest dedicated semiconductor foundry, offering industry-leading fabrication process technologies, the largest manufacturing capacity among the dedicated foundries, extensive library and IP portfolios, and other advanced foundry services.

TSMC currently operates two 12-inch wafer fabs, five 8-inch wafer fabs and one 6-inch wafer fab. The Company also has substantial capacity commitments at two wholly owned subsidiaries, WaferTech in the U.S. and TSMC (Shanghai) Company, Ltd. in China, as well as at a joint-venture fab, Systems on Silicon Manufacturing Co. ("SSMC"), in Singapore.

TSMC was incorporated on February 21, 1987. TSMC's common shares are listed on the Taiwan Stock Exchange. About 17.5% of our common shares are also listed on the New York Stock Exchange (NYSE) in the form of American Depositary Receipts under the symbol TSM.

As a responsible corporate citizen, the Company is committed to public service and to maintaining strong relationships with our customers, investors, employees, and the communities where TSMC does business.

Fab2

Fab6

2 Company Profile

Sound corporate governance is rooted in a strong Board of Directors comprised of experienced business leaders and distinguished scholars. The Board reinforces the Company's commitment to financial integrity and management soundness. There are three independent Board members among a total of nine directors. The Audit Committee, which reports to the Board, was established in 2002. It oversees the integrity of TSMC's financial and audit systems. The Audit Committee is comprised solely of independent members of the Board. The Compensation Committee was established in June 2003 and is comprised of three voting members, who are independent Board members, as well as two non-voting members. It reviews and makes recommendations on issues related to employee and executive compensation.

Fab12

Fab14

3 ESH Policies

TSMC focuses on core business - IC Foundry. All materials and tools used in the manufacturing process, including silicon wafers, chemicals, gases, electricity, water, etc., should be well managed in daily operations. TSMC's activities should not only meet relevant environmental, safety and health (ESH) legal requirements, but should also be benchmarked against recognized international practices. TSMC's goals are to prevent pollution and efficiently use all resources, prevent incidents, improve employees' safety and health, protect property and establish a well-being working environment. To achieve these goals, TSMC is committed to continually improving the following.

1. All employees should take responsibility to maintain the highest-level quality of the environment and ensure a safe and healthy workplace.
2. Comply with ESH legal requirements and make continuous efforts to implement international state-of-the-art practices.
3. Promote ESH concepts and awareness company-wide by providing sufficient training and resources and actively seek cooperation and communication with employees.
4. Introduce new international ESH concepts and technologies to enhance and support all levels of management.
5. Conduct ESH assessments for new tools and materials used in research and development to reduce ESH risks.
6. Communicate ESH issues with suppliers and contractors to encourage them to improve their ESH performance.

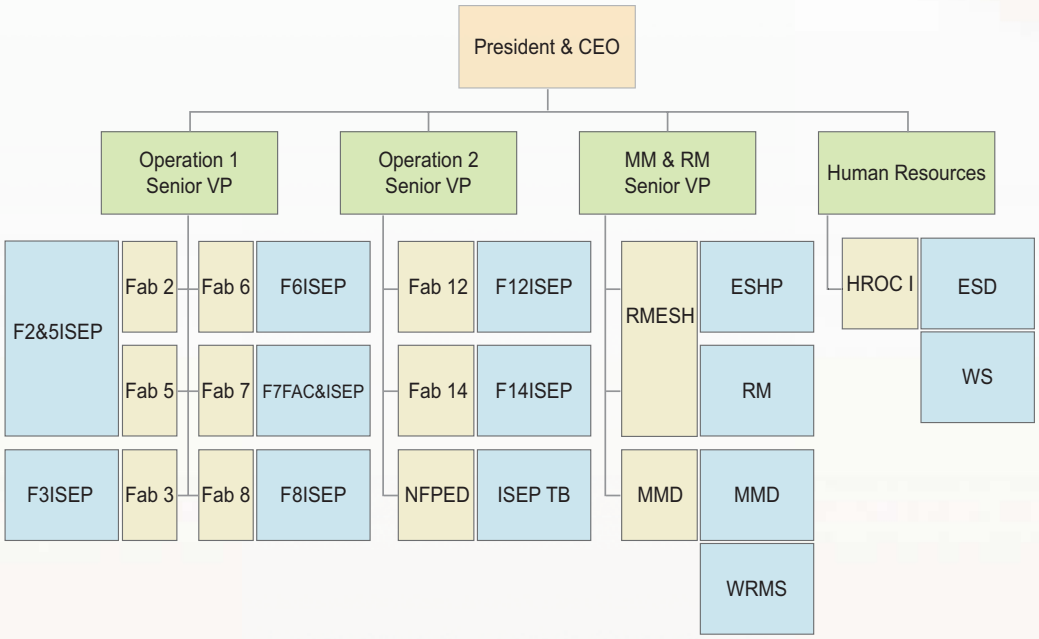
4 ESH Organization

Originally, TSMC's ESH operations were in the hands of its Industrial Safety and Environmental Protection Section, under the direct supervision of the VP of Administration. In response to corporate growth, TSMC established a corporate ESH Risk Management Department (RM) and an ESH Industrial Safety and Environmental Protection Department (ISEP) in 1995. In 2001, ISEP began reporting directly to fab directors to enhance overall operational efficiency. The Risk Management Department was also promoted to be the Risk Management & Corporate ESH Division (RMESHD) in 2003. The RMESHD is under the supervision of the Senior VP of Material and Risk Management and is in charge of Risk Management and Environment, Safety & Hygiene Strategic Planning.

The RMESHD is responsible for ESH planning, auditing and external communication. It sets the company's ESH guidelines, introduces the best available technologies and runs systematic audit programs to identify potential risks. On-site ISEP is responsible for planning, supervising and implementing the ESH operations of each fab. New fabs are under the care of the New Fab Planning & Engineering Division (NFPED), which ensures that all the planning, construction and operation steps abide by domestic regulations and the most up-to-date international specifications in order to build state-of-the-art semiconductor fabs that meet world ESH standards.

In addition, in 1998, TSMC established a Technical Board with designated participants from all fabs. Through the sharing and accumulation of technology and experience, it greatly enhances cross-fab communication, cooperation and resource allocation, and it generates Best Known Methods (BKMs) for problem solving and standardization.

4 ESH Organization



ESD: Employee Service Department

ESHP: Environment, Safety & Hygiene Strategic Planning

HROC I: Human Resources Operations Center I

ISEP: Industrial Safety and Environmental Protection

ISEP TB: Industrial Safety and Environmental Protection Technical Board

LMD: Logistics Management Department

MMD: Material Management Division

NFPED: New Fab Planning and Engineering Division

RM: Risk Management

RMESHD: Risk Management & Corporate ESH Division

WMD: Warehouse Management Department

WRMS: Waste Resources Management Section

WS: Wellness Section

5 ESH Milestones

Year	Milestone
1987	TSMC was founded.
1990	ISEP was founded.
1995	Corporate ESH Risk Management Department (RM) and on-site ESH Industrial Safety and Environmental Protection (ISEP) were established in response to corporate growth.
1996	Fab 2 was ISO14001 certified.
1997	Fabs 1, 3 and 4 were ISO14001 certified.
1998	Operational Technical Board was established; ISEP Technical Board placed in charge of fab ESH-related operations.
1998	TSMC became a member of International SEMATECH, allowing TSMC to make continuous ESH improvements.
2000	Fab 5 was ISO14001 certified.
2000	Fab 7 was ISO14001 certified.
2000	Fabs 1, 2, 3, 4 and 5 were OHSAS18001 certified.
2001	Fabs 6 and 8 were ISO14001 certified.
2001	Fabs 6, 7 and 8 were OHSAS18001 certified.
2002	Fab 12 was ISO14001 and OHSAS18001 certified.
2003	Risk Management Department (RM) was promoted to be Risk Management & Corporate ESH Division (RMESHD), in charge of Risk Management and Environment, Safety & Hygiene Strategic Planning.
2003	SARS Crisis Management Team was established; general guidelines were set for future infectious disease control.
2004	ISO14001 (the most up-to-date version) and OHSAS18001 were renewed.
2005	Fab 14 was ISO14001 and OHSAS18001 certified.
2005	Encouraged contractors to obtain OHSAS18001 and staff skill certification.

6 Performance Index

Continuous improvement is one of TSMC's beliefs. The Performance Index is an important tool to review and measure our continuous improvement efforts. The ESH performance index of TSMC involves external evaluation and internal control. External evaluation includes the Dow Jones Sustainability Indexes (DJSI) and domestic awards and honors. Internal control consists of environmental performance, ESH Management System certification and occupational injury/illness statistics.

The following list outlines the ESH performance of TSMC in 2005:

- **DJSI:** For five years in a row, from 2001 to 2005, TSMC has been selected as one of the constituents of DJSI.
- **Domestic Awards and Honors:** We received the "National Award for Outstanding Achievements in Industrial Waste Disposal and Resources Reduction and Recycling" from the Environmental Protection Administration (EPA), "Water Conservation Outstanding Performance Award" from the Water Resources Agency, "Labor Safety & Hygiene Excellent Unit Award" from the Hsinchu Science Park Administration (SPA), "Labor Safety & Hygiene Excellent Unit Award" from the Tainan SPA and "National Safety & Hygiene Excellent Unit Five-Star Award" from the Council of Labor Affairs (CLA).

6 Performance Index

- **Environmental Performance**
  - Wastewater Treatment: All wastewater analysis results met SPA wastewater treatment facility acceptance standards.
  - Water Resource Recycling: Revenue created per unit (1,000 metric tons) of tap water reached NT$19 million.
  - Air Pollution Control: The emissions measured have been in compliance with EPA standards.
  - Energy Conservation: Revenue created per unit (million KWH) of electricity reached NT$120 million.
  - Waste Management: Total waste recycling rate was 86.4%.
- **ESH Management System Certification: Fab 14 became ISO14001 and OHSAS 18001 certified.**
- **Occupational Injury/Illness Statistics**
  - Injury Rate per Thousand Workers: Significantly reduced from 0.42 in 2004 to 0.19 in 2005.
  - Frequency Rate: Reduced from 0.20 in 2004 to 0.09 in 2005.

6 Performance Index

6.1 Dow Jones Sustainability Indexes (DJSI)

"Socially Responsible Investment" is not only the derivative product of sustainable economic development, but also the most vibrant field of the international investment industry today. Social justice, environmental sustainability and financial performance have become critical factors contributing to investment performance and social benefits.

To satisfy market demand, several world-renowned investment institutes introduced the "Socially Responsible Investment Index". It not only serves as a comparative tool for investors, but also as an effective indicator of marketability and overall investment performance. In September 1999, Dow Jones and Sustainable Asset Management (SAM) introduced the Dow Jones Sustainability Indexes (DJSI). Out of the Dow Jones Indexes' constituents (approximately 3000 companies), the top 10% sustainability-driven companies are selected to be the constituents of the DJSI. The selection criteria include annual financial performance as well as weightings on economic, social and environmental developments.

TSMC has been privileged to be one of the sustainability leaders of the DJSI since 2001 for five consecutive years, and is the only enterprise to have been accredited with the honor in Taiwan in 2003, 2004 and 2005.

6 Performance Index

6.2 Awards

TSMC has received honors and awards from various government agencies for its significant contributions to ESH improvement.

Year	Awards
2005	"National Award for Outstanding Achievements in Industrial Waste Disposal and Resources Reduction and Recycling" from the Environmental Protection Administration (EPA).
2005	"Water Conservation Outstanding Performance Award" from the Water Resources Agency.
2005	"Labor Safety & Hygiene Excellent Unit Award" from the Hsinchu Science Park Administration (SPA).
2005	"Labor Safety & Hygiene Excellent Unit Award" from the Tainan SPA.
2005	"National Labor Safety & Hygiene Excellent Unit Five-Star Award" from the Council of Labor Affairs (CLA).
2004	"Water Conservation Outstanding Performance Award" from the Water Resources Agency.
2004	"Annual Environmental Protection Award for Enterprise" from the EPA.
2004	"Labor Safety & Hygiene Excellent Unit Award" from the Tainan SPA.
2004	"National Labor Safety & Hygiene Excellent Unit Award" from the CLA.
2003	"Energy Conservation Award" from the Ministry of Economic Affairs (MOEA).
2003	"Annual Environmental Protection Award for Enterprise" from the EPA.
2003	"National Award for Outstanding Achievements in Industrial Waste Disposal and Resources Reduction and Recycling" from the EPA.
2003	"Water Conservation Outstanding Performance Award" from the Water Resources Agency.
2003	"National Labor Safety & Hygiene Excellent Unit Award" from the CLA.
2003	"Labor Safety & Hygiene Excellent Unit Award" from the Hsinchu SPA.
2003	New System of "Safety, Hygiene and Volunteer Protection Program Unit Honor" from the CLA.

6 Performance Index

6.2 Awards

Year	Awards
2002	"Annual Environmental Protection Award for Enterprise" from the EPA.
2002	"National Award for Outstanding Achievements in Operation and Maintenance for Pollution Control Facilities" from the Industrial Development Bureau (IDB), MOEA.
2002	"Energy Conservation Award" from the MOEA.
2002	"Water Conservation Outstanding Performance Award" from the Water Resources Agency.
2002	"Labor Safety & Hygiene Excellent Unit Award" from the Hsinchu SPA.
2002	New System of "Safety, Hygiene and Volunteer Protection Program Unit Honor" from the CLA.
2001	"National Award for Outstanding Achievements in Operation and Maintenance for Pollution Control Facilities" from the IDB, MOEA.
2001	"Energy Conservation Award" from MOEA.
2001	"Labor Safety & Hygiene Excellent Unit Award" from the Hsinchu SPA.
2001	"Volunteer Protection Program 3 Year Honor" from the CLA.

Fab 6 received the "National Labor Safety & Hygiene Excellent Unit Five-Star Award" for 3 years in a row.

Fab 8 received the "National Award for Outstanding Achievements in Industrial Waste Disposal and Resources Reduction and Recycling".

Fab 12 received the "Water Conservation Outstanding Performance Award".

6 Environmental Performance

6.3.1 Wastewater Treatment

All TSMC fabs not only monitor wastewater discharge on-line, but also analyze wastewater quality at least four times a year. All the analysis results have met SPA wastewater standards.

2005 TSMC Wastewater Quality Analysis Results

Items \ Fab / Date	Fab 2				Fab 3				SPA Standard
	March	June	September	December	March	June	September	December	
pH	6.4	6.5	6.7	6.4	7.4	6.7	6.6	6.6	<5-10
Temperature(℃)	23.2	26.2	25.7	23.2	25.3	28.6	27.3	24.0	<35
Suspended Solid (mg/L)	54.5	22.8	50.0	54.5	16.8	223.0	50.8	117.0	<300
Chemical Oxygen Demand (mg/L)	57.4	81.0	40.1	57.4	62.2	46.0	87.0	76.6	<500
Biochemical Oxygen Demand (mg/L)	55.1	35.0	1.2	55.1	28.6	17.3	38.8	46.3	<300
Fluoride (mg/L)	9.0	4.2	6.1	9.0	5.9	2.2	1.9	2.7	<15

Items \ Fab / Date	Fab 5				Fab 6				SPA Standard
	March	June	September	December	February	April	October	December	
pH	6.6	6.5	6.2	5.3	7.0	7.1	5.6	5.8	<5-10
Temperature(℃)	24.4	27.9	27.9	25.2	22.2	21.2	31.1	25.0	<35
Suspended Solid (mg/L)	74.8	47.0	107.0	298.0	50.0	31.0	51.0	44.5	<300
Chemical Oxygen Demand (mg/L)	26.9	143.0	48.8	62.2	110.0	128.0	141.0	93.6	<500
Biochemical Oxygen Demand (mg/L)	24.2	29.7	30.2	28.7	60.1	35.3	42.8	37.4	<300
Fluoride (mg/L)	6.3	2.5	3.0	5.0	4.5	6.2	10.9	6.1	<15

Items \ Fab / Date	Fab 7				Fab 8				SPA Standard
	February	May	August	November	February	May	August	December	
pH	7.3	7.2	7.0	6.9	7.1	6.9	7.6	6.9	<5-10
Temperature(℃)	21.8	23.1	24.8	22.6	24.7	24.8	27.6	21.3	<35
Suspended Solid (mg/L)	18.5	2.5	3.0	5.0	7.0	14.5	49.0	45.5	<300
Chemical Oxygen Demand (mg/L)	30.4	56.5	42.7	46.2	72.1	148.0	105.0	127.0	<500
Biochemical Oxygen Demand (mg/L)	11.7	14.8	10.2	11.5	30.4	49.4	14.0	44.5	<300
Fluoride (mg/L)	4.2	6.6	5.4	4.1	6.1	5.9	9.2	4.2	<15

Items \ Fab / Date	Fab 12				Fab 14				SPA Standard
	March	June	September	November	February	April	October	December	
pH	6.5	6.0	5.6	6.9	7.4	7.1	6.6	7.1	<5-10
Temperature(℃)	26.4	27.0	28.9	26.7	21.1	22.0	26.8	27.4	<35
Suspended Solid (mg/L)	26.2	100.0	10.1	56.5	126.0	60.0	135.0	68.0	<300
Chemical Oxygen Demand (mg/L)	158.0	243.0	66.3	289.0	62.2	59.3	110.0	293.0	<500
Biochemical Oxygen Demand (mg/L)	63.1	103.0	37.4	77.7	16.4	2.0	39.5	224.0	<300
Fluoride (mg/L)	6.2	6.2	4.2	5.9	13.5	13.4	11.3	6.4	<15

6 Environmental Performance

6.3.2 Water Resource Recycling

Water is a precious resource. For effective utilization of water resources, TSMC dedicates itself to the improvement of its water recycling rate. Due to adjustments in the process water equipment and the installation and improvement of waste water recycling equipment, the process water recycling rate showed great improvement, from 69.5% in 2001 to 73.4% in 2005, up 1.87 times. The average process water recycling rate in 2005 was slightly lower than that of 2004 mainly because of the two fabs added in 2005. The process water recycling rate of these two fabs is gradually rising.

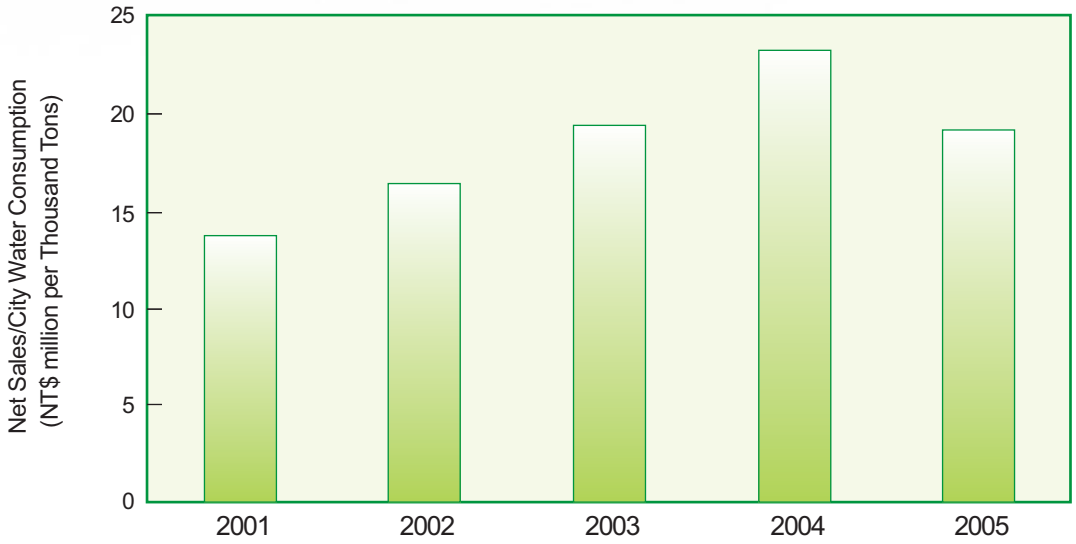
TSMC Water Conservation Performance of 2000-2005

Item	2001	2002	2003	2004	2005
Average process water recycling rate(%) [1]	69.5%	73.9%	75.6%	76.9%	73.4%
Water saved (million tons)	711	859	991	1,162	1,331
Water saved, measured in standard swimming pools [2]	2,844	3,438	3,964	4,649	5,323
Water saved, measured in the full capacity of Paoshan Reservoir [3]	1.33	1.61	1.85	2.17	2.49

Note: 1. Average process water recycling rate is defined by the Science Park Administration.
2. A standard 50 x 25 x 2m swimming pool contains up to 2,500 tons of water.
3. Paoshan Reservoir is the major reservoir that supplies water to Hsinchu Science Park. The full capacity of Paoshan Reservoir is 5.35 million tons.

With regard to the net sales/city water consumption, TSMC has since 2002 implemented a series of water conversation programs and practices to greatly reduce water consumption and to enhance water usage efficiency, such as the wet scrubber water recycling system, the organic/acidic water recycling system, the Chemical Mechanical Polishing (CMP) water recycling system and the copper CMP water recycling system.

Net Sales from City Water Consumption



6 Environmental Performance

6.3.3 Air Pollution Control

TSMC has installed effective air pollution control equipment in each wafer fab to meet the air pollutant emission standards set by the EPA. TSMC also established a backup system for the pollution control equipment to continue waste gas control and to lower the risk of air pollutant emission in the event of equipment breakdown. For Volatile Organic Compounds (VOCs) pollution control equipment, TSMC has installed backup fuel supply systems that will kick in to ensure normal equipment operations if the original fuel supply system experiences difficulties.

All TSMC fabs continuously monitor the real-time concentration of VOCs and conduct annual emission measurements as required by environmental laws. The emissions measured have been far below EPA standards.

Acidic gases pollution control facility -Wet Scrubber

VOCs pollution control facility - Zeolite Concentration Rotor

2005 TSMC Exhaust Andlysis Results

Fab	Fab 2								Fab 5				
Stack No.	P001	P003	P005	P006	P008	P009	P011	P013	P101	P102	P104	P105	P106
H2SO4 (kg/hr)	ND	ND	*	*	*	*	*	ND	*	*	ND	ND	*
Fluoride (kg/hr)	0.053	0.013	*	*	*	*	*	0.02	*	*	0.033	0.034	*
HCl (kg/hr)	0.097	ND	*	*	*	*	*	0.093	*	*	0.52	0.24	*
Cl2 (kg/hr)	0.016	0.022	*	*	*	*	*	0.02	*	*	0.051	0.046	*
NH3 (kg/hr)	*	*	0.0083	0.0088	0.0035	*	*	*	*	*	*	*	0.0031
HNO3 (kg/hr)	0.0042	0.0022	*	*	*	*	*	0.0024	*	*	0.021	0.013	*
H3PO4 (kg/hr)	ND	ND	*	*	*	*	*	ND	*	*	ND	ND	*
VOCs DRE (%)	*	*	*	*	*	92.0%	92.7%	*	93.3%	95.3%	*	*	*

Fab	Fab 6									Fab 7						
Stack No.	P102	P104	P105	P107	P112	P113	P114	P119	P120	P101	P107	P110	P301	P307	P308	P315
H2SO4 (kg/hr)	*	*	0.00244	*	0.00233	*	*	*	*	ND	*	*	ND	*	*	*
Fluoride (kg/hr)	*	*	0.0191	*	0.00305	*	*	*	*	0.03	*	*	0.023	*	*	*
HCl (kg/hr)	*	*	0.0015	*	0.00338	*	*	*	*	0.17	*	*	ND	*	*	*
Cl2 (kg/hr)	*	*	ND	*	ND	*	*	*	*	0.028	*	*	0.027	*	*	*
NH3 (kg/hr)	*	*	*	*	*	*	*	ND	ND	*	0.012	*	*	0.0072	*	0.0028
HNO3 (kg/hr)	*	*	0.00204	*	0.005	*	*	*	*	ND	*	*	ND	*	*	*
H3PO4 (kg/hr)	*	*	0.00184	*	0.00118	*	*	*	*	ND	*	*	ND	*	*	*
VOCs DRE (%)	96.1%	93.3%	*	97.3%	*	96.4%	92.6%	*	*	*	*	92.7%	*	*	95.3%	*

6 Environmental Performance

6.3.3 Air Pollution Control

2005 TSMC Exhaust Andlysis Results

Fab	Fab 3																						
Stack No.	P101	P103	P104	P105	P106	P107	P108	P109	P110	P111	P112	P113	P114	P115	P116	P117	P118	P119	P201	P209	P210	P214	P218
H2SO4 (kg/hr)	0.0011	*	0.0015	0.0100	0.0024	0.0033	0.0024	0.0019	0.0025	0.0013	*	*	*	*	0.0004	0.0006	*	*	0.0100	0.0003	0.0039	*	*
Fluoride (kg/hr)	0.0027	*	0.0003	0.0012	0.0001	0.0001	ND	0.0100	0.0030	0.0030	*	*	*	*	ND	ND	*	*	0.0011	0.0000	ND	*	*
HCl (kg/hr)	0.0037	*	0.0029	*	*	*	*	0.0028	0.0036	*	*	*	*	*	*	0.0009	*	*	0.0100	0.0005	0.0023	*	*
Cl2 (kg/hr)	*	*		ND	ND	ND	ND	*	*	ND	*	*	*	*	ND	*	*	*	ND	*	ND	*	*
NH3 (kg/hr)	0.0200	0.3100	0.0200	*	*	0.0600	*	0.0200	0.0500	*	*	*	*	*	*	*	0.0100	ND	0.0700	*	0.0600	*	*
HNO3 (kg/hr)	*	*	*	0.0049	0.0024	0.0025	0.0040	*	*	0.0017	*	*	*	*	0.0005	0.0010	*	*	0.0046	0.0003	0.0020	*	*
H3PO4 (kg/hr)	*	*	*	ND	ND	ND	ND	ND	*	ND	*	*	*	*	ND	ND	*	*	ND	ND	ND	*	*
VOCs emissiom (kg/hr)	*	*	*	*	*	*	*	*	*	*	0.110	0.110	0.160	0.011	*	*	*	*	0.180	*	*	0.002	0.050

Fab	Fab 8				Fab 12							
Stack No.	P103	P110	P113	P114	P002	P008	P009	P012	P013	P016	P018	P022
H2SO4 (kg/hr)	0.04	*	*	*	ND	ND	*	ND	*	ND	ND	*
Fluoride (kg/hr)	0.02	*	*	*	0.073	0.050	*	0.033	*	0.052	0.042	*
HCl (kg/hr)	0.08	*	*	*	0.12	0.100	*	0.092	*	0.110	ND	*
Cl2 (kg/hr)	0.001	*	*	*	0.02	0.019	*	0.017	*	0.016	0.021	*
NH3 (kg/hr)	*	0.010	*	*	*	*	0.017	*	*	*	*	ND
HNO3 (kg/hr)	0.004	*	*	*	0.0430	0.0060	*	0.01	*	0.0140	0.02	*
H3PO4 (kg/hr)	0.002	*	*	*	ND	ND	*	ND	*	ND	ND	*
VOCs DRE (%)	*	*	93.7%	92.4%	*	*	*	*	95.2%	*	*	*

Fab	Fab 14											
Stack No.	P102	P105	P107	P108	P109	P110	P114	P115	P116	P117	P119	P120
H2SO4 (kg/hr)	0.0158	0.0173	*	*	*	*	0.0128	0.0140	*	*	*	*
Fluoride (kg/hr)	0.0092	0.0100	*	*	*	*	0.0075	0.0081	*	*	*	*
HCl (kg/hr)	0.0951	0.1000	*	*	*	*	0.0772	0.0831	*	*	*	*
Cl2 (kg/hr)	0.0121	0.0130	*	*	*	*	0.0098	0.0105	*	*	*	*
NH3 (kg/hr)	0.0162	0.0175	*	*	*	*	0.0001	0.0537	*	*	*	0.0027
HNO3 (kg/hr)	0.0069	0.0077	*	*	*	*	0.0014	0.0015	*	*	*	*
H3PO4 (kg/hr)	0.0030	0.0032	*	*	*	*	0.0024	0.0026	*	*	*	*
VOCs DRE (%)		*	97.0%	92.4%	93.2%	93.6%	*	*	95.5%	91.8%	96.3%	*

Note:

1. Treatment of H_2SO_4, Fluoride, HCl, HNO_3 and H_3PO_4 meet the control factors of wet scrubber of "Air Pollution Control and Emission Standards for Semiconductor Manufacturing Industry".
2. Treatment of VOC meets the DRE (Destruction Removal Efficiency) (>90%) or factory emission (<0.6kg/hr) of "Air Pollution Control and Emission Standards for Semiconductor Manufacturing Industry".
3. Treatment of NH_3 and Cl_2 meets the "Air Pollutants Emission Standards for Stationary Pollution Sources".
4. * : Analysis not required.
5. ND: Not Detected.

6 Environmental Performance

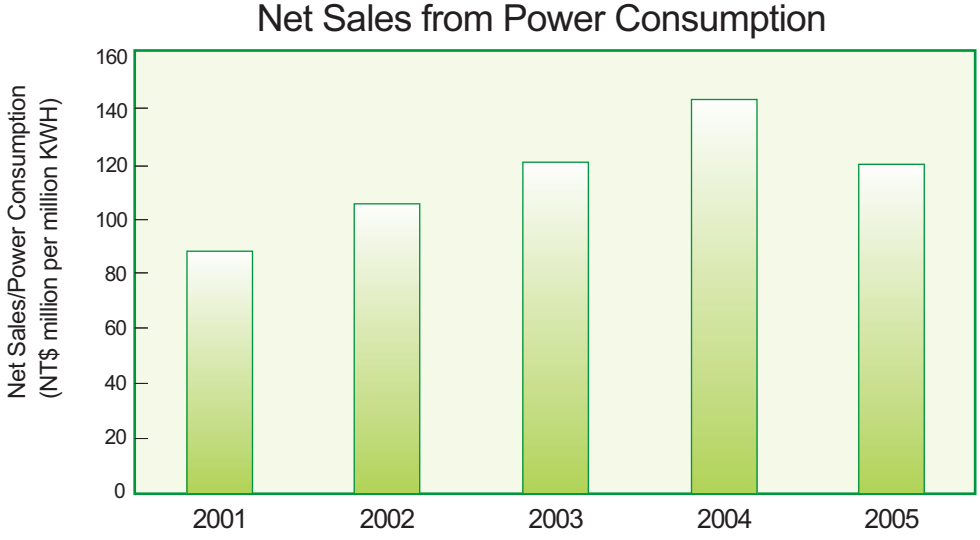
6.3.4 Energy Conservation

TSMC continuously makes concerted efforts to conserve energy and reduce the emission of the greenhouse gas carbon dioxide. Net sales/power consumption increased from NT$92 million/million KWH in 2001 to NT$120 million/million KWH in 2005. The revenue created per unit of electricity in 2005 was slightly lower than in 2004 because of the two new fabs built in 2005, which caused electricity usage to rise compared to previous years.

Take Fab 12 as an example; its major accomplishments in energy conservation include:

- The installation of a heat recycling chiller that produces 35°C warm water and saves 36,595 MWH/year.
- The adoption of inverters in air conditioning, exhaust and process water systems saves 19,207 MWH/year.
- The adoption of a mini-environment energy-conservation design for the clean room saves 17,078 MWH/year.
- The use of dual-temperature chilled water hydraulic system enhances thermo exchange efficiency and saves 2,409 MWH/year.

Heat Recycling Chiller



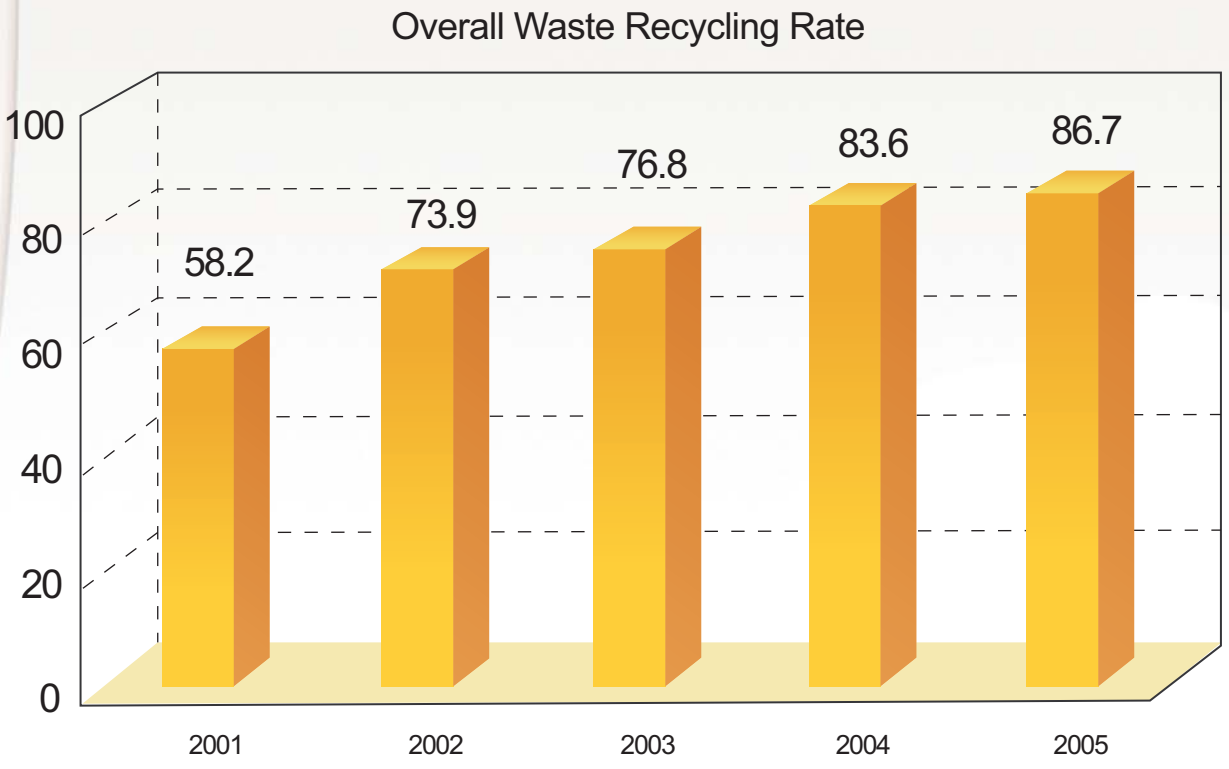
6 Environmental Performance

6.3.5 Waste Management and Resource Recycling

TSMC was the first company in the industry to establish a designated unit for the effective management and planning of waste recycling and disposal. To attain the goal of sustainable resource utilization, TSMC balances available technology with the cost, and then sets its priority on process waste reduction and pollution prevention to continuously minimize waste production. Once a substance is no longer suitable for its original purpose, recycling will then be considered in the order of material recycling, energy recycling and proper disposal. To stay on top of waste disposal, TSMC has annual audit plans that sporadically dispatch staff to follow disposal trucks and routinely audit waste disposal and recycling contractors to ensure legal and proper disposal of waste and to prevent environmental pollution.

TSMC's achievements in waste reduction and recycling in 2005 include:

- The overall waste recycling rate rose significantly to 86.7% in 2005 from 83.6% in 2004.



6 Environmental Performance

6.3.5 Waste Management and Resource Recycling

Waste Recycling Items and Post-Recycling Products

Recycled Items	Post-Recycling Products
Waste Sulfuric acid	Turned into Aluminum Sulfate
*Calcium fluoride (CaF2) sludge	Cement Additive
*Residual Polishing Liquid	Potassium Silicate
Waste Cupric Sulfate	Industrial Grade Cupric Sulfate
Waste Cupric Liquid	Recycled for production of new etching liquid
Thinner of photo resistant	Distilled for Reuse
Waste Isopropyl Alcohol (IPA)	Distilled for Reuse
Stripper removing photo resistant layer	Distilled for Reuse
Solvent removing photo resistant layer	Cement kiln supplementary fuel
Waste Phosphoric acid	Industrial Grade Phosphate, Calcium Phosphate
* Waste Hydrofluoric Acid	Turned into Calcium fluoride (Flux)
Empty Toner/Cartridge	Recycled Toner/Cartridge
Kitchen scraps	Animal feed

*TSMC was the first company in Taiwan to submit a recycling application for this item and the first to get approval for it from the Ministry of Economic Affairs and National Science Council.

- Test wafers are polished for recycling. In 2005, about 1.61 million wafers were recycled to reduce waste wafers by about 120.8 metric tons.
- Screened wafers are recycled and used by solar energy system manufacturers as materials for solar cell production. In 2005, about 286,000 wafers were recycled to reduce waste wafers by about 18.7 metric tons.
- Wafer boxes are recycled and washed for re-use. In addition to wafer material boxes, recycling sources include those sold to international customers and domestic downstream packaging and testing companies. In 2005, about 22,000 wafer boxes were recycled and about 54.9 metric tons were re-used.
- Drainage pipelines of process tools are inspected to prevent improper discharge of wastewater into waste solvent collection tanks and to effectively reduce the amount of waste solvents.

6 Performance Index

6.4 ESH Management System Certification

All TSMC fabs were ISO14001 and OHSAS18001 certified in 1996 and from 2000 onwards. In order to minimize potential ESH risks, TSMC proposes improvement projects such as pollution control, energy and resource conservation, waste reduction, safety and health management and fire and explosion prevention as well as risk prevention. In 2005, Fab 12P3 and Fab 14 were certified. The fabs and their respective ISO14001 and OHSAS18001 certification years are listed below:

Fab	ISO14001	OHSAS18001
Fab 2	1996	2000
Fab 3	1997	2000
Fab 5	2000	2000
Fab 6	2001	2001
Fab 7	1997	2001
Fab 8	2001	2001
Fab 12	2002	2002
Fab 12P3	2005	2005
Fab 14	2005	2005

DET NORSKE VERITAS

MANAGEMENT SYSTEM CERTIFICATE

Certificate No. 1056-1996-AE-RGC-RvA

This is to certify that

TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY, LTD.

has been found to conform to the Management System Standard:

ISO 14001:2004

This Certificate is valid for the following product or service ranges:

MANUFACTURE OF SILICON WAFERS WITH HEAD OFFICE PROVIDING GENERAL SUPPORTING FUNCTIONS

August 9th, 1996 — Hong Kong, July 26th, 2005

December 21st, 2007

DNV CERTIFICATION B.V., THE NETHERLANDS

David Hsieh, *Lead Auditor*

K. Wong, *Management Representative*

Lack of fulfilment of conditions as set out in the Appendix may render this Certificate invalid

ISO14001 Certificate

DET NORSKE VERITAS

MANAGEMENT SYSTEM CERTIFICATE

Certificate No. 0030-2000-HSO-RGC-DNV

This is to certify that The Occupational Health and Safety Management System of

TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY, LTD.

has been found to conform to the Management System Standard:

OHSAS 18001 : 1999

This Certificate is valid for the following product or service ranges:

MANUFACTURE OF SILICON WAFERS WITH HEAD OFFICE PROVIDING GENERAL SUPPORTING FUNCTIONS

January 5th, 2000 — Hong Kong, July 26th, 2005

December 21st, 2007

for Det Norske Veritas

David Hsieh, *Lead Auditor*

K. Wong, *Management Representative*

OHSAS18001 Certificate

6 Performance Index

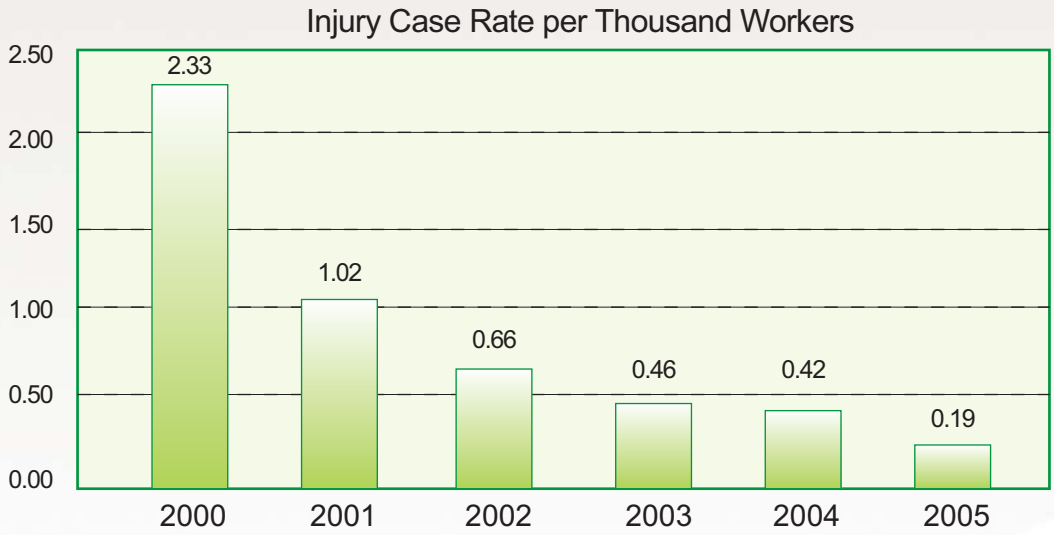
6.5 Occupational Injury/Illness Statistics

TSMC uses the following two indices defined by the Council of Labor Affairs (CLA) to evaluate the effectiveness of occupational health and safety programs: Injury Case Rate per thousand workers (the number of lost-day injury cases per thousand workers), Frequency Rate (FR, the number of disabling injuries and illness cases per million labor-hours).

Note: Traffic accident injuries outside fabs are not included

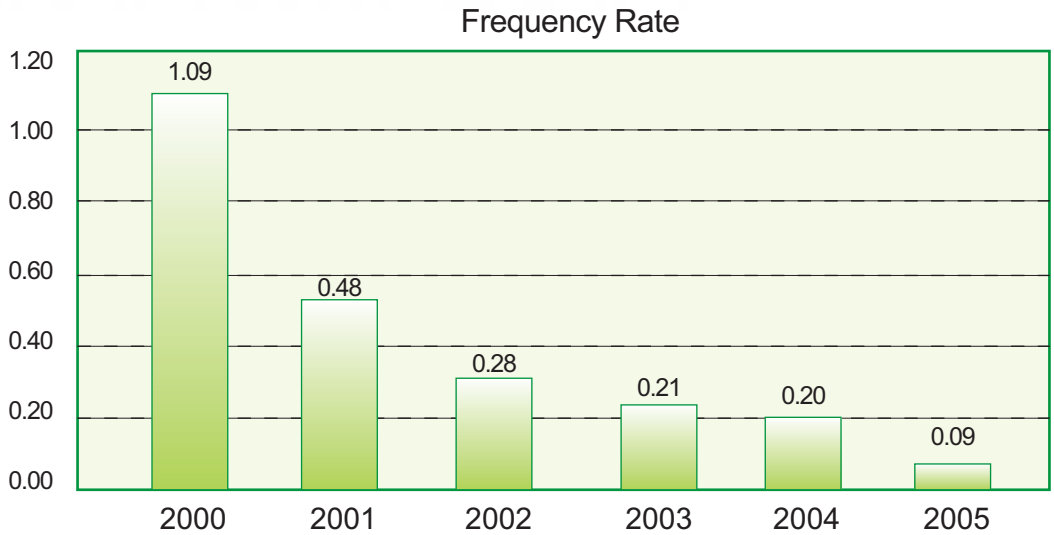
Injury Case Rate per Thousand Workers reported by the CLA in 2004.

TSMC's injury case rate per thousand workers was significantly reduced from 0.42 in 2004 to 0.19 in 2005 -- much lower than the Taiwan national injury case rate of 4.2 reported by the CLA in 2004.



Frequency Rate

The FR of TSMC was reduced from 0.20 in 2004 to 0.09 in 2005 -- much lower than the Taiwan national FR of 2.0 reported by the CLA in 2004.



7 Environment Management

The International Standards Organization (ISO) established a series of environmental management systems and tools in 1996. TSMC has formulated relevant standards in accordance with this series.

In 1996, Fab 2 was the first TSMC fab to be ISO14001 certified, while other fabs followed suit according to a planned schedule. In the process of promoting the environmental management system, TSMC leveraged the advantage of computerization to establish related systems to meet the PDCA principles of follow-up management. The systems included a significant environmental consideration identification system, an environmental management system and a legal and communication management system, as well as a corrective action and a non-compliance management system.

TSMC began to implement environmental accounting in 2002, incorporating environmental protection costs into the accounting system to establish a green accounting system. In addition, TSMC integrated efficiency assessment tools with the environmental management system to assist fabs with economic efficiency evaluations as they carried out environmental management. TSMC began to implement "life cycle evaluations" in the same year and completed the Eco-profile in response to future international legal requirements and customer demand.

As a result of the EU's Restriction of Hazardous Substances (ROHS), TSMC in 2004 invited nine of its primary raw material suppliers to participate in the "Green Supply Chain Project" organized by the Bureau of Industrial Development. This ensured that their products contained no banned substances and created a situation that benefited customers, suppliers and TSMC.

In response to the effectiveness of the Kyoto Accord, TSMC in 2005 began to promote greenhouse gas inspection and verification. TSMC was ISO14064 certified through the examination of a fair third party. This serves as a basis for future gas emission reduction.

7 Environment Management

7.1 Environmental Accounting

TSMC established its environmental accounting system in 2002 and integrated the environmental accounting practices with the Environmental Management System (EMS) in 2003. The integrated system not only facilitates each fab to implement environmental management programs but also simultaneously evaluates their economic efficiency. By the end of 2005, the total benefit for promoting environmental management programs, including waste recycling and industrial waste reduction, amounted to NT$725 million.

TSMC Environmental Costs in 2005

Period: 1/1/2005 - 12/31/2005 Unit: per NT$1,000

Classification	Description	Investment	Expenses
1. Direct cost for reducing environmental impact			
(1) Pollution Control	Fees for air pollution control, water pollution control and others	1,301,348	1,071,532
(2) Resource Conservation	Costs for resource (e.g. water) conservation	188,880	423,000
(3) Waste Disposal and Recycling	Costs for waste treatment (including recycling, incineration and landfill)	0	92,976
2. Indirect cost for reducing environmental impacts (managerial cost)	(1) Cost of training (2) Expenditure of environmental management system and certification (3) Fees of environmental measurement and monitoring (4) Fees of purchasing environmental protection products (5) Fees of environmental protection organizations	105,930	158,760
3. Other environment-related costs	(1) Costs for de-contamination and remediation (2) Environmental damage insurance and environmental taxes (3) Costs related to environmental settlement, compensations, penalties and lawsuits	0	0
4. Total		1,596,158	1,746,268

TSMC Environmental Efficiency in 2005

Period: 1/1/2005 - 12/31/2005 Unit: per NT$1,000

Items	Description	Efficiency (NT$1,000)
1. Recycling of industrial waste	Recycling of waste pallets, packaging materials, wafer boxes, wafers, computers and accessories, fluorescent lamps, metals, empty toner cartridges and waste	10,577
2. Reduction of industrial waste	Costs of industrial waste disposal saved by reducing their quantity.	715,000
3. Total		725,577

7 Environment Management

7.2 Life Cycle Assessment

TSMC has persistently conducted the "Life Cycle Assessment Project" since 2002. This project collects and calculates the data of wafer manufacturing, from raw materials suppliers to the products, including energy and raw materials consumption and pollutant generation from silicon mining, wafer production and wafer manufacturing. In 2005, TSMC began to apply the Life Cycle Assessment to 12-inch wafer manufacturing. So far, TSMC Fabs 2, 3, 5, 6, 7, 8 and 12 have completed their respective Eco-profiles, which not only satisfies international standards, such as the Energy using Product directive of the EU, but also meets customer requirements.

Data show that water is the most heavily consumed raw material, followed by air, coal and petroleum oil. Air can be viewed as a recoverable resource and is therefore inexhaustible. According to the weighting analysis, the most significant environmental impact of wafer manufacturing is water consumption, followed by energy consumption, aquatic toxicity and global warming effect.

7 Environment Management

7.3 Green Procurement

In 2002, TSMC began to implement "Green Procurement." In 2004, TSMC invited its primary raw material suppliers to participate in the "Green Supply Chain Project", organized by the Bureau of Industrial Development in conjunction with the Industrial Technology Research Institute, as part of TSMC's endeavors to introduce its efforts in green production to up- and down-stream associates. During the annual "Supply Chain Management Forum" in 2005, TSMC shared such concepts as "Green Procurement" and "Greenhouse Gases Inventory and Reduction" with its suppliers and contractors and has received positive feedback.

TSMC created a banned substance list for wafer manufacturing, including the RoHS regulated by the European Union for electronic products, Ozone Depleting Substances, Polychlorinated Biphenyls and carcinogens. At the same time, TSMC also demanded that all its suppliers refrain from using these banned substances to ensure that all TSMC products stay in compliance with customer and legal requirements.

List of Substances Banned by TSMC	
Asbestos and its compounds	Ozone Depleting Substances
Azo-Based Materials	Polybrominated Biphenyls (PBBs) and their Ethers/Oxides (PBDEs)
Cadmium and its compounds	Polychlorinated Biphenyls (PCBs)
Certain Ethylene Glycol Ethers	Polychlorinated Naphthalenes (more than 3 chlorine atoms)
Chromium (VI) and its compounds	Radioactive substances
Lead and its compounds	Shortchain Chlorinated Paraffins
Mercury and its compounds	Tributyl Tin, Triphenyl Tin and oxides

7 Environment Management

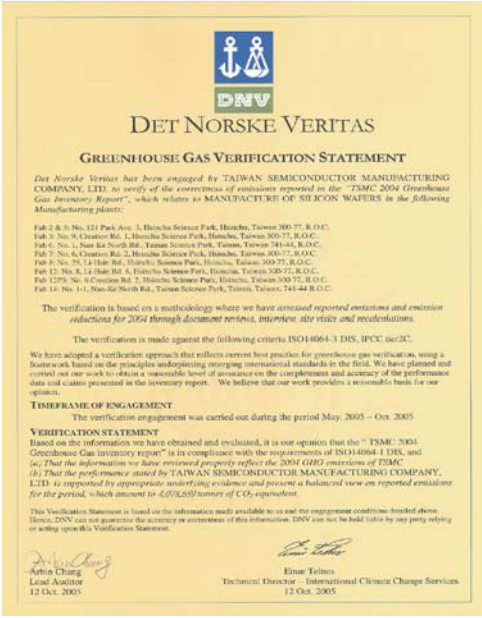
7.4 Greenhouse Gas Emission Reduction

Perfluorinated compounds (PFCs), such as CF_4, C_2F_6, SF_6, NF_3, CHF_3, C_3F_8 and C_4F_8, are widely used in the semiconductor manufacturing processes and contribute to the global warming effect. Accordingly, PFCs emission reduction has been one of the emphases of the Taiwan Semiconductor Industrial Association (TSIA) and the World Semiconductor Council (WSC). TSMC also actively engages in PFCs gas emission reduction.

TSMC signed a memorandum with the TSIA and the EPA and formulated the PFCs emission reduction policy and its implementation plan. TSMC has committed to reducing PFCs emission by 10% below the average emission value of 1997 and 1999 by the year 2010. To reach this objective, TSMC has adopted the following strategies:

- To measure the fraction of PFC destroyed or transformed by Chemical Vapor Deposition (CVD) process tools and the fraction of PFCs destroyed by the PFCs abatement systems for the calculation of actual emission coefficients and the of PFCs emitted.
- To evaluate the feasibility of whether C3F8 can be used as cleaning gas during processing Chemical Vapor Deposition (CVD).
- To evaluate and use effective PFCs abatement systems in combustible and catalytic types.

In 2005, TSMC executed a thorough Greenhouse Gas (GHG) inventory in 2004. The results were accepted and certified by a certification institute. The certified results can be used by TSMC as references for GHG emission reduction policies. They can also help prepare TSMC to meet future regulations, carbon dioxide trade and carbon asset management requirements.



DNV

DET NORSKE VERITAS

GREENHOUSE GAS VERIFICATION STATEMENT

Det Norske Veritas has been engaged by TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY, LTD. *to verify of the correctness of emissions reported in the "TSMC 2004 Greenhouse Gas Inventory Report", which relates to* MANUFACTURE OF SILICON WAFERS *in the following Manufacturing plants:*

Fab 2 & 3: No. 121 Park Ave. 3, Hsinchu Science Park, Hsinchu, Taiwan 300-77, R.O.C.
Fab 3: No. 9, Creation Rd. 1, Hsinchu Science Park, Hsinchu, Taiwan 300-77, R.O.C.
Fab 6: No. 1, Nan Ke North Rd., Tainan Science Park, Tainan, Taiwan 741-44, R.O.C.
Fab 7: No. 6, Creation Rd. 2, Hsinchu Science Park, Hsinchu, Taiwan 300-77, R.O.C.
Fab 8: No. 25, Li Hsin Rd., Hsinchu Science Park, Hsinchu, Taiwan 300-77, R.O.C.
Fab 12: No. 8, Li Hsin Rd. 6, Hsinchu Science Park, Hsinchu, Taiwan 300-77, R.O.C.
Fab 12P3: No. 6 Creation Rd. 7, Hsinchu Science Park, Hsinchu, Taiwan 300-77, R.O.C.
Fab 14: No. 1-1, Nan-Ke North Rd., Tainan Science Park, Tainan, Taiwan, 741-44 R.O.C.

The verification is based on a methodology where we have *assessed reported emissions and emission reductions for 2004 through document review, interview, site visits and recalculations.*

The verification is made against the following criteria: ISO14064-3 DIS, IPCC tier2C.

We have adopted a verification approach that reflects current best practice for greenhouse gas verification, using a framework based on the principles underpinning emerging international standards in the field. We have planned and carried out our work to obtain a reasonable level of assurance on the completeness and accuracy of the performance data and claims presented in the inventory report. We believe that our work provides a reasonable basis for our opinion.

TIMEFRAME OF ENGAGEMENT

The verification engagement was carried out during the period May. 2005 – Oct. 2005

VERIFICATION STATEMENT

Based on the information we have obtained and evaluated, it is our opinion that the " TSMC 2004 Greenhouse Gas inventory report" is in compliance with the requirements of ISO14064-1 DIS, and

(a.) That the information we have reviewed properly reflect the 2004 GHG emissions of TSMC
(b.) That the performance stated by TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY, LTD. *is supported by appropriate underlying evidence and present a balanced view on reported emissions for the period, which amount to 4,078,889 tonnes of CO_2 equivalent.*

This Verification Statement is based on the information made available to us and the engagement conditions detailed above. Hence, DNV can not guarantee the accuracy or correctness of this information. DNV can not be held liable by any party relying or acting upon this Verification Statement.

Arbin Chang
Lead Auditor
12 Oct. 2005

Einar Telnes
Technical Director – International Climate Change Services
12 Oct. 2005

ISO 14064 Verification Statement

8 Safety and Health Management

TSMC based its safety and health management on the OHSAS18001 system. The on-line system enhances the managerial efficiency of PDCA in order to achieve the goals of accident prevention, employee safety and health enhancement and company asset protection.

TSMC fabs continued fab-wide emergency response drills in 2005. In its pursuit of excellence, TSMC also introduced a high-risk operation management system for effective utilization of managerial resources. After the WHO announced that avian flu could potentially become a new human-to-human epidemic, TSMC formed the "Avian Flu Prevention Project" to lower operational risks. Various measures have also been taken to protect TSMC against the impact of earthquakes. All these protection and prevention efforts demonstrate TSMC's continuous efforts toward perfecting its safety and health management.

8 Safety and Health Management

8.1 Emergency Response

Emergency response requires comprehensive planning and continuous modification and practice. TSMC's emergency response procedures include the initial immediate response (or "Emergency Response Period"), emergency management steps and disaster recovery plans. TSMC has a disaster response organization set up at company headquarters that formulates "Disaster Recovery Guidelines". Each fab also formulates its own disaster recovery plan covering specific, detailed response procedures for potential disasters.

Emergency Response Team

TSMC fabs execute large-scale emergency response drills and evacuation drills annually. The 2005 emergency response drills included nighttime fire drills, toxic gas leakage drills, weekend magnitude 5 earthquake drills, first-aid drills and emergency evacuation drills. TSMC also practiced emergency response drills specifically for on-site service contractors in order to establish mutual supporting mechanisms to minimize possible damages.

Emergency Evacuation of Employees

Chemical Substance Leakage Handling

In 2005, aside from the routine quarterly emergency response drills by the engineering and facility departments, drills on chemical substance leakage, oxygen shortage as a result of ammonia leakage, boiler fire and car wreck evacuation were also conducted for labs, canteens, dormitories and business vehicles.

First Aid Practice

8 Safety and Health Management

8.2 Earthquake Preparedness

In recent years, there have been many serious natural disasters. The tsunami that overwhelmed Southeast Asia, the earthquake that shook Kashmir, the storms that ran rampant in the Atlantic and floods everywhere claimed several hundred thousand lives and resulted in hundreds of billions of U.S. dollars in economic losses. According to past statistics, earthquakes are responsible for 98% of total natural disaster fatalities. To mankind, earthquakes are more devastating than any other calamity of nature.

Taiwan is right at the heart of an earthquake zone. We have no choice but to face the unavoidable. To reduce casualties and property losses, TSMC laid down a series of earthquake preparedness projects for buildings, facilities, labs, computer rooms and process stations. The projects include pre-earthquake seismic-resistant capability evaluation, seismic design and reinforcement, post-earthquake damage evaluation, speedy earthquake damage assessment, earthquake damage recovery and reinforcement. To ensure that TSMC is well protected against seismic impacts, TSMC has established a design review mechanism, set up procedures and periodical onsite inspections, undergone construction improvement projects and held regular training programs. In addition, it also maintains close interactions and technology exchanges with industrial associations, the Industrial Technology Research Institute, academic institutions, governing agencies and the National Center for Research on Earthquake Engineering (NCREE) in order to minimize seismic risks. In response to the new anti-seismic requirements on facilities, the design of labs, computer rooms and process stations, TSMC has begun to promote a professional registration system in order to align its seismic resistant capability with international standards and ensure design quality and validity. Aside from its endeavors in engineering, construction and management improvement, TSMC also purchased earthquake insurance to reduce losses.

The ultimate goal of this series of efforts is to prevent earthquakes from seriously impacting the operation, reputation and credibility of TSMC. Furthermore, it is to ensure that, even under severe natural disasters, TSMC remains fully committed and capable of fulfilling its commitments to its customers, shareholders and employees.

8 Safety and Health Management

8.3 Contractor Management

TSMC is committed to communicating with and encouraging its contractors and suppliers to improve their own ESH performance. In the annual contractor communication meeting, TSMC shares its ESH concerns and improvement recommendations with the participants and recognizes and awards contractors for outstanding performance. In 2005, TSMC made arrangements for Chen Full International Co., Ltd. and Marketech International Corp. to share their experience on promoting OHSAS-18001 and worker skill certification.

In 2005, TSMC hired a total of 1,680 contracting companies, from which as many as 970,000 workers entered TSMC fabs with 9,860,000 work hours. These data indicate the significance and frequency of TSMC's contractor activities. Data analysis further reveals that most of the contractor accidents were caused either by contractors' failure to comply with work procedures or by improper hardware safety design.

ESH Award Presented to an Outstanding Contractor

8 Safety and Health Management

8.3 Contractor Management

Consequently, in 2005, TSMC employed critical-work-management and self-management to govern the work performed by contractors. Critical-work-management defines tasks that may cause injuries, electric shocks, fires and toxic gas/chemical substance leakages as Level-1 works and tasks that may result in system shutdowns and production interruptions as Level-2 works. In accordance with the nature of the operations, it defines the safety/protective measures and control procedures that workers must follow; it also requires fulltime supervision by TSMC and the contracting company over critical tasks that may jeopardize workers' safety. The self-management policy requires that all contractors of TSMC's critical works complete the establishment of their own OHSAS-18001 safety and sanitation management system by July 2007, and TSMC allows only those who have passed worker skill certification to work on critical works. The employment of self-management is meant to increase the contractors' sense of ownership and responsibility with the hope to promote self-awareness for all contractors in the industry. Since its implementation, accidents caused by contractors have significantly decreased.

2005 ESH Award & Communication Meeting

Self-management Experience Sharing

8 Safety and Health Management

8.4 Avian Flu Prevention Project

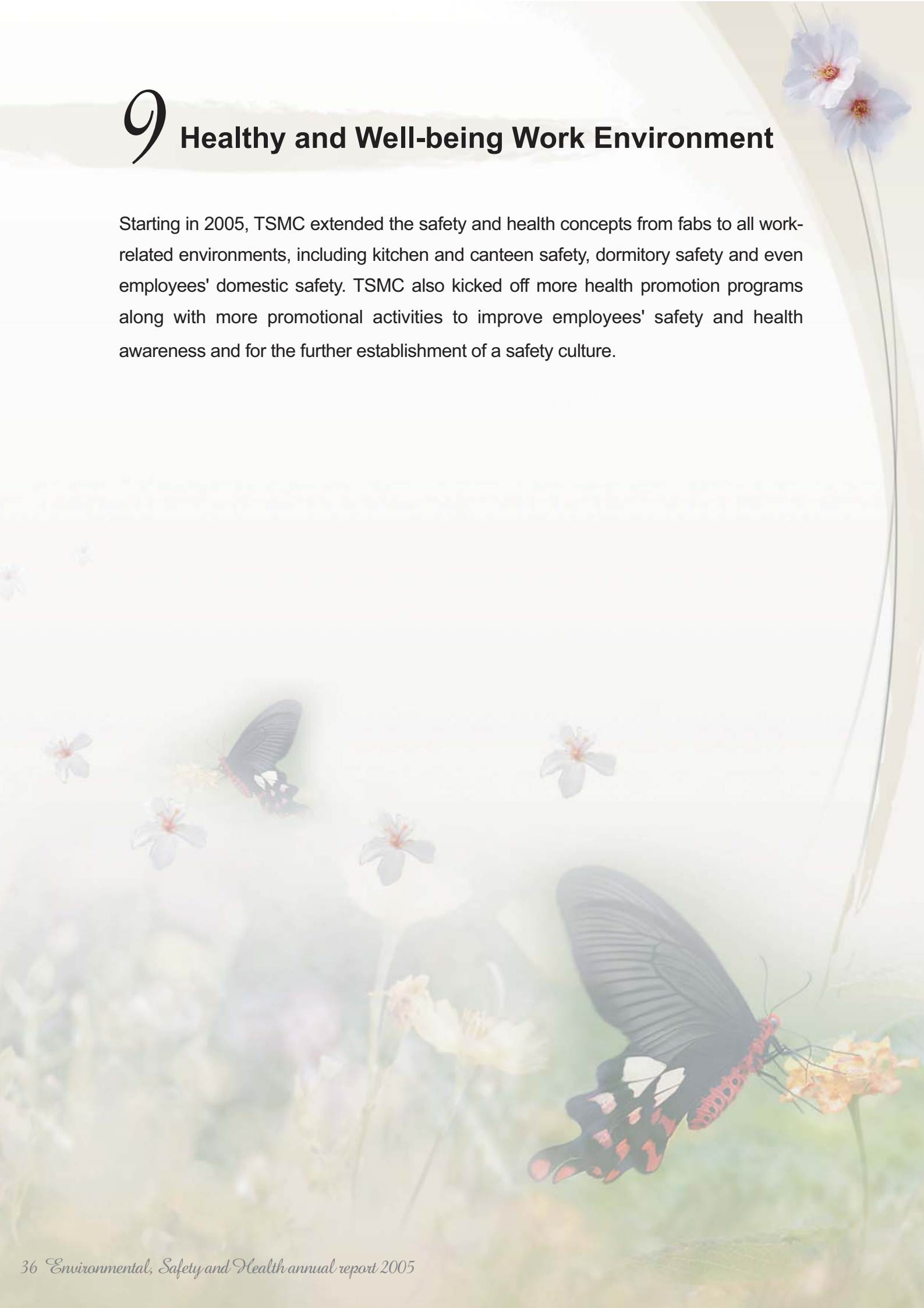
In response to the possibility of avian flu becoming a human-to-human epidemic and its possible impact on employees and operations, TSMC formed an "Avian Flu Prevention Project". The project is based on our SARS experience and the reference from the epidemic prevention experience of the CTCI Corporation, the "New Influenza Combat Plan" of the Center of Disease Control and the "Preparation and Response Project against Major Influenzas" of the Singapore government, plus consultations with domestic epidemic experts and distinguished medical doctors.

The project includes employee disease prevention education, material preparation, kitchen disease prevention management, leave and travel management, case management, notification and medical assistance, mask wearing and hand washing, supplier/contractor and visitor restriction, body temperature measurement standards, working at home plan, environment control and disinfection, contact reduction plan and waste disposal, etc. TSMC's senior VP of Materials and Risk Management also holds regular meetings to review disease prevention preparations. If avian flu cases occur in Taiwan or if the virus becomes human-to-human transmission, TSMC will launch different projects in accordance with the stage of the epidemic to lower the impact of avian flu on its employees and operations.

TSMC Disease Prevention Information Website

9 Healthy and Well-being Work Environment

Starting in 2005, TSMC extended the safety and health concepts from fabs to all work-related environments, including kitchen and canteen safety, dormitory safety and even employees' domestic safety. TSMC also kicked off more health promotion programs along with more promotional activities to improve employees' safety and health awareness and for the further establishment of a safety culture.



9 Healthy and Well-being Work Environment

9.1 Safety Culture

TSMC believes that all employees should take responsibility to ensure a safe and healthy workplace. Since 2005, in addition to the monthly executive ESH committee meetings, fab engineering and facility managers also are required to hold safety preview meetings to be on top of ESH issues, including ESH performance, direction and improvement status. These meetings strengthen the leaders' engagement, understanding and supervision of ESH issues and shape a safety culture of self-management.

Aside from the commitment to continuous improvement of the ESH management system, TSMC introduced various activities and projects to enhance employee safety awareness, including home safety and fire prevention activities, safety seminars for children and the elderly, defensive driving safety education, dormitory fire evacuation drills, CO poison prevention practices and a job observation program. Educational materials and films related to the above activities have been made available on the company's ESH website from which employees can download information to share with family members or others.

In 2005, TSMC began to intensify its safety inspections of non-operation areas such as employee dormitories, kitchens, laboratories, MIS rooms and warehouses. All concerned departments have been required to establish self-inspection and self-management mechanisms.

Dormitory Fire Safety Inspection

Transportation bus evacuation drill

9 Healthy and Well-being Work Environment

9.2 Health Enhancement

TSMC insists on safeguarding its employees' health and safety according to the highest standards, and it ensures that sound healthcare and staff assistance services are provided in every fab. For physical health, TSMC employees are entitled to a series of health improvement services and programs including outpatient visits, 24-hour nursing care, annual physical examinations, women's healthcare, cancer screenings, exercise, fitness and weight loss. For enhancement of mental health, there are pressure management programs and workshops, free psychological consultations and staff assistance projects. In addition, all employees can find health information through the company's healthcare website.

Furthermore, TSMC offers clinical and dental care services in Fab 12. Medical doctors are available to offer Chinese and Western medicine consultation and treatment services, and TSMC employees are entitled to various examination services and dental care. Health enhancement activities include nutrition consultations, weight-loss classes, a self-paid acupuncture weight-loss program, Helicobacter Pylori C-13 Urea Breath Tests, thyroid ultrasound examinations, an endocrinology clinic, a dermatology clinic, bone mineral densitometry examinations and cancer screenings. In the future, TSMC will continue to introduce more convenient professional health improvement programs.

9 Healthy and Well-being Work Environment

9.3 ESH Activities

To promote caring for the planet and for employee safety and health, TSMC not only holds a variety of ESH activities each year but also participates in related ESH events organized by the SPA and other environmental protection organizations. These activities help TSMC employees internalize the concepts of environmental protection into their lives and raise their awareness toward safety and health. The major activities that TSMC organizes or takes part in are as follows:

- **Participation in the ESH Month Activity sponsored by the SPA**

  TSMC takes on the responsibility for organizing ESH forums for the ESH Month Activity and invites experts and scholars from the industry, government agencies and academia to give lectures and hold seminars on greenhouse gas reduction and disaster recovery in order to enhance Science Park companies' ESH awareness.

- **Fab Emergency Response Month Activities**

  By playing quiz and video games and contests, TSMC familiarizes employees with the methods and steps of emergency response. TSMC introduces employees to hazardous factors of home life as well as to proper procedures for childcare.

ESH Month ESH Forum

ESH Month Achievement Exhibition

Residential Safety Video Game Contest

Fab Emergency Response Month Outstanding Works

10 Social Responsibility Information

TSMC Education and Culture Foundation

The TSMC Education and Culture Foundation was established to facilitate the Company's dedication to becoming Taiwan's leading corporate citizen. We have been an active sponsor of various educational, cultural and community activities in Taiwan for seven years. Through sponsorship of and engagement in these public activities, the Foundation aims not only to make a contribution to society, but also to share with the public the business philosophies that led to the Company's success.

Commitment to Education

TSMC is committed to supporting education and cultivating future leaders. We work closely with leading universities on a wide-ranging program of scholarships, chair professor positions, academic activities and lecture series. In 2005, the Foundation donated NT$120 million to the prestigious National Taiwan University to build a new research center for the chemistry department. The research center will be dedicated to cutting-edge chemistry and materials science research and to basic science education. TSMC is also committed to promote research and innovation through donations to leading international educational institutions. In 2005, we completed a three-year US$1,000,000 sponsorship to Stanford University's Nanocharacterization Laboratory. In addition, TSMC donated US$500,000 to MIT Sloan School of business for the project of a new building complex.

Sponsorship of Art Events and Aesthetic Education

In 2005, the Foundation sponsored various performances and art events, ranging from concerts and drama to fine art exhibitions. Our sponsorship culminated with the TSMC Concert by the Berliner Philharmoniker, its first performance in Taiwan. The event generated significant publicity and was enjoyed by well over 30,000 people, including those who attended the outdoor broadcast. The Foundation also made special arrangements to enable over 300 schoolchildren from the Hsinchu area to sit in on the orchestra's rehearsal, introducing them to classical music at an early age.

10 Social Responsibility Information

- Contribution to Local Communities

  The Foundation has long been an avid supporter of fine arts. In 2005, we considerably expanded the scope of the third annual "TSMC Art Festival". The venue for the events was extended from Hsinchu to Tainan. The concert for the opening night of the 2005 program was organized as a charity event and a total of NT$1.38 million was raised for the education of underprivileged aboriginal children of the typhoon victims in Hsinchu County. TSMC also donated a new Steinway piano to Hsinchu City Concert Hall. During the twomonth Art Festival, the Foundation arranged a total of 29 different activities, including concerts, traditional operas, lectures, and family-oriented activities. The Festival attracted over 10,000 people from the local communities.

- Dedication to the Employee Volunteer Program

  The TSMC Education and Culture Foundation has encouraged over 200 employees and family members to join the volunteer program to make contributions to society through personal participation. For three consecutive years, members of the group have served as volunteer weekend curators at the National Museum of Natural Science, Taichung. The TSMC volunteer group has served more than 200,000 visitors to date and has been recognized as an "Outstanding Volunteer Team" by the National Museum. In addition, the Foundation established a "TSMC Book Reading Volunteer Program," now in its second consecutive year, where over 50 employees and their family members read stories to elementary school children in remote Hsinchu townships. This program hopes to open a window of knowledge for these resource-deprived children through the power of reading.

10 Social Responsibility Information

- **Health and Safety Performance**

  TSMC is committed to achieving the highest standards of wellness and safety for all employees. In the area of wellness, TSMC offers comprehensive wellness care and employee assistance programs at all of our operating sites. Employees have access to on-site clinics, 24-hour nursing service, annual physical exams, women's health services, cancer screening, on-site fitness facilities and programs, weight management services, and various health awareness programs. Employees also have access to stress management programs, counseling services, and other employee assistance programs.

- **Policies and Procedures Relating to Environmental, Safety and Health Regulations**

  TSMC believes its environmental, safety and health (ESH) practices should not only meet the relevant local legal requirements, but also benchmark recognized international practices. The Company's goals are to prevent pollution, efficiently use all resources, prevent incidents, improve employees' safety and health, protect property, and establish a work environment that promotes the well-being of our employees and of the communities in which we operate. In 2005, TSMC continued its efforts on projects involving Environmental Accounting, Product Life Cycle Assessment, Green Procurement, Greenhouse Gas Inventory, Contractor Management, Employees' Health and Avian Influenza Prevention Promotion. TSMC actively incorporates risk management concepts in the design and construction of new buildings, the evaluation of ESH requirements for new processes and for new chemicals in process development. In order to minimize potential operational losses, the Company regularly evaluates and enhances electrical and seismic protection during installation of tools and equipment, thus reducing the risk of interruption of operations.

10 Social Responsibility Information

- **Equal Opportunity Employment**

  TSMC believes in equal opportunity employment and values the diversity our staff contributes toward our corporate culture and our spirit of innovation. Recruitment is conducted via open selection and is based on the candidate's ability to fulfill the needs of each position, regardless of race, gender, age, religion, nationality, or political affiliation.

- **Supplier Selection Process and Criteria Regarding Social and Environmental**

  In 2005, TSMC continued to follow a green procurement procedure, requesting raw material suppliers to officially declare that they do not and will not use prohibited substances.

- **Social and Environmental Impacts of TSMC's Outsourced Operations and Contractors**

  TSMC has promoted a "Responsible Care Program" to assist contractors to enhance their companies' Environmental, Safety and Health (ESH) management systems. TSMC collects input from contractors and communicates our expectations on ESH performance to our contractors annually.

- **Social and Environmental Impacts of TSMC's Suppliers**

  TSMC has conducted a "Product Life Cycle Assessment" (Product LCA) for all 6-inch and 8-inch processes, as well as one 12-inch wafer process. The Product LCA evaluated the environmental impact of these processes, collecting and analyzing data from the entire chip manufacturing chain, from raw materials suppliers to finished products, including statistics for such items as energy, raw materials consumption, and generation of pollutants. The Product LCA study established an eco-profile and environmental loading values for chip manufacturing. These can be provided to TSMC's customers upon request.

If you have any comments or questions, please contact Y. D. tzeng
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