

# Sustainability Report 2006

Toyota Motor Thailand Co., Ltd.

Everything has its own limits



### Welcome to the first Sustainability Report

Toyota Motor Thailand Co., Ltd. first published an environmental report in FY2002. Although previous year's reports have various information on environmental aspects and social aspects, this year's report title has been changed to focus on sustainability. In FY2006, the fourth report was renamed to Sustainability Report 2006 which has information on further improvements to achieve our vision "Global 2010".

Toyota Motors Thailand's Sustainability Report 2006 includes environmental activities, social activities, and also economic activities which provides all stakeholders with a full and honest account of environmental and social activities.

### Scope of Report

This sustainability report describes Toyota Motor Thailand's activities in the three areas of sustainability: Environmental Performance, Social Performance and Economic Performance. For more details, please see the following report. These reports are also available on our website: http://www.toyota.co.th.

The cover of this report, "Everything has its own limits" was awarded Best of B.A.D. Student Workshop 2006 under the theme "Stop Global Warming", which is social-contributing activity of Toyota Motor Thailand. It was designed by Ms.Chutima Sangphueng, Senior Student at the Faculty of Fine Arts, Bangkok University.

### **Period Covered**

The period covered in the data is from April 2005 to May 2006, and major developments are described as of June 2006.



### **Previous Environmental Reports**





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### **EXECUTIVE STATEMENT**



For the past several years, Toyota Motor Thailand Co., Ltd. has been rapidly growing along with Thai society and the economy. Before I assumed my position as President of Toyota Motor Thailand in 2001, our annual sales were 83,000 units for both domestic and export markets. Last year, 2005, Toyota Motor Thailand's production capacity jumped to 415,000 units, which represented a 400% increase over 5 years. This is one of the highest growth rates I have ever experienced.

The reasons behind this success included our sustainable financial investments, human resources development programs for our employees, suppliers and dealers, as well as a sharp growth of the automobile market. We have also been conducting comprehensive customer services, and carrying out activities for social contribution.

With our continued economic expansion and strategic location, Toyota Motor Thailand is very proud to have been selected by Toyota Motor Corporation as one of its main investment bases. As an example, we have been constructing a new automotive plant which will be operational in January 2007. The new plant will be the most environmentally friendly, and be equipped with the most advanced technology in the Asia Pacific Region. Clean energy will be utilized, and wastewater and solid waste will be fully recycled, and  $\mathrm{CO}_2$  emissions will be reduced to a much lower level than our original benchmark.

In addition to investment for expanded production capacity, Toyota Motor Thailand has invested in human resource development for its employees, suppliers and dealers by establishing a training center called, AP-GPC, a one-of-its-kind in Asia Pacific. At this academy, we provide practical training courses to improve skills of our employees and suppliers from Toyota companies in the Asia Pacific Region. Moreover, we operate a vocational school under the permission of the Ministry of Education, and we donate scholarships and equipment to facilitate learning, such as engines to several other educational institutions.

We aim for the highest standards in terms of production facilities and human resources to create and deliver the most valued products to Thai customers. We put a great deal of effort in developing high quality, comfortable, eco-friendly, and safe automobiles for the highest satisfaction of customers and society as a whole. Furthermore, we are committed to developing new services, expanding service centers and dealers across the country.

Social responsibility is also our priority. In fact, it is written in our policy that we will be a well-governed organization in Thailand with the commitment to steadily improve society on a sustainable basis. We have conducted several social contribution activities with 2 main themes this year, i.e. road safety and environmental conservation. However, we continue our support in other areas as well, such as science and technology, the arts and culture, and community development.

Toyota Motor Thailand has played a significant role in social contribution, especially with the establishment of The Toyota Thailand Foundation more than 10 years ago. The foundation spends the benefits generated from the seed money to serve the objectives of education promotion and improvement of quality of life and the environment, as well as other social contribution activities in cooperation with several other organizations.

Lastly, I believe that Toyota Motor Thailand's sustainable growth must go hand in hand with Thai society. Therefore, Toyota Motor Thailand commits to giving back to Thai society by conducting several social contribution activities along with improving its production processes, products and services to become more environmentally friendly.

Mr. Ryoichi Sasaki







The reasons behind Toyota's long time success in leading the automotive industry and being well accepted and trusted by customers are due to our painstaking consideration in every production step from press, welding, painting to assembly as well as our continuous contributions to social improvement and environmental protection.

Nowadays, our two manufacturing plants i.e., Samrong and Gateway Plants are equipped with advanced pollution abatement and waste minimization technology to control air emission, noise, wastewater, solid and other liquid waste effectively and systematically from all the processes.

In 2007, Toyota is expanding manufacturing base to our new plant in Ban Pho District, Chachoengsao Province to serve increasing demands. This new plant will be the first Eco-Factory in ASEAN that utilizes innovative environmental technology. This proves our commitment to continual improvement for better environment and Thai society. We believe that sustainable development cannot be achieved through only company's financial growth but also social and environmental development. We commit to the harmonization of company's growth and Thai society.

For the last whole year, Toyota Motor Thailand Co., Ltd. continued improving quality of life in the society and environmental quality as witnessed from several environmental projects at community, national and global levels.

This Sustainability Report has compiled Toyota Motor Thailand's economic, environmental and social performances for the fiscal year of 2006 (April 2005-March 2006). These projects include energy conservation, VOCs and SoCs reduction, renewable energy from Jatropha, ISO 14001 implementation promotion for dealers and suppliers, Stop Global Warming project, Mangrove reforestation project, construction of new eco-plant at Ban Pho, Chachoengsao, and publishing of financial report. This report aims to disseminate knowledge about our activities and our commitments to sustainable development.

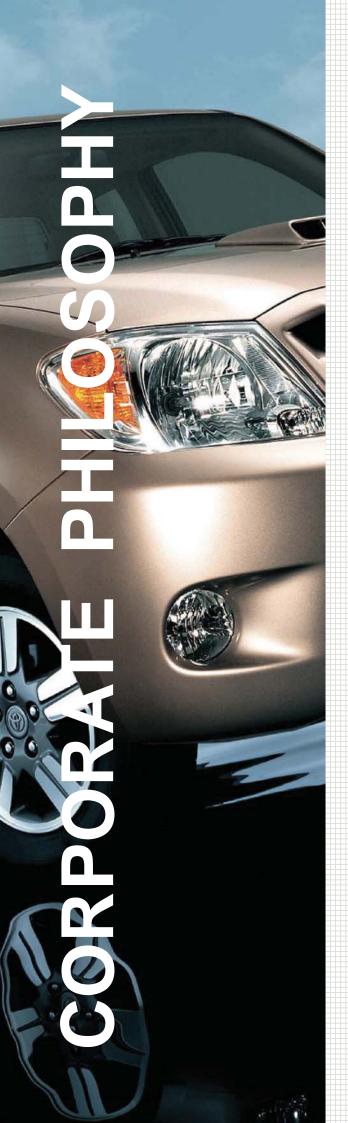
I truly hope that some projects or initiatives shown in this report are powerful tools to reflect our dedication on working for the society and to raise environmental awareness among stakeholders. Toyota Motor Thailand would like to hear your comments about the report for future improvement.

Mr. Yasuhiro Mishima **Executive Vice President** 

G. Mishima

Mr. Apichai Sidrattakul
Vice President

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Today, Toyota Motor Thailand Co., Ltd. is one of the leading automobile manufacturers in Thailand, with a current market share of about 40%. For the past 40 years, customers have placed their trust and confidence in our company and our products. In spite of the fact that Toyota Motor Thailand Co., Ltd. is very successful, there are numerous challenges for us and we commit to continuous improvement and strategy development to achieve our goal.

### Toyota Motor Thailand Vision

- Be the leader of Toyota Asia Pacific and a core company of Toyota global network operations
- 2. Be the most admired and respected company in Thailand

### Toyota Motor Thailand Principle

- 1. Employ continuous improvement by means of challenge and change
- 2. Respect people and their needs
- 3. Pursue excellence in customer satisfaction
- 4. Dedicate ourselves to the highest standards
- 5. Adopt a spirit of social responsibilities to our communities and the environment

### Toyota Motor Thailand Mission

- 1. Strengthen operation and encourage collaboration within the Asia Pacific Region
- 2. Achieve dominant customer satisfaction and market share
- 3. Ensure safety as the first priority in all corporate fundamental activities
- 4. Create a better quality society through meaningful social contributions



### Toyota Motor Thailand Environmental Policy

- Toyota Motor Thailand will be strictly complied with laws and regulations relating to the company's operation and commit to achieving environmental goals and targets.
- 2. Toyota Motor Thailand will be dedicated to continual improvement on environmental protection and pollution control by:
  - a). Reducing environmental impacts caused by raw materials and production processes by evaluating their impacts before using new materials or implementing new processes.
  - b). Reducing energy consumption and emission and waste to the environment.
- 3. Toyota Motor Thailand commits to making the employees understand and aware of environmental issues to ensure effective environmental management.
- Place emphasis on local community participation and enhance cooperation in environmental conservation activities.



# **Company Overview**

Toyota Business Overview Organization Structure of Environment Company-wide Committee Environment & Social related Awards

### **Company Overview**

Toyota Motor Thailand Co., Ltd. is the largest automobile manufacturer in Thailand. It was established on Oct 5, 1962. Current capital investment is about 7,520 million baht (US\$ 190 million). Toyota Motor Thailand has 3 automobile manufacturing plants including Samrong Plant (commercial trucks), Gateway Industry Plant (passenger cars) and Thai Auto Work Plant (commercial trucks). Total capacity of these 3 plants is 437,500 units per year. In addition to automobile assembly, Toyota Motor Thailand imports and exports cars and parts to over 90 countries around the world. In early 2007, a new plant will be in operation at Ban Pho in Chachoengsao Province to meet the increasing demand of commercial vehicles domestically and internationally. The first phase of the new plant will have a capacity of 100,000 units per year. Moreover, Ban Pho Plant will be the flagship for the growth of Toyota Motor Thailand and will be the most advanced automobile manufacturing plant in the region in terms of safety, quality, cost and environment (Eco Plant).

Toyota Motor Thailand's headquarter is located in Samrong Tai Sub-district, PhraPradang District, Samut Prakarn Province. The number of employees is 12,632 (as of December 2005). Toyota Motor Thailand has divided the operation into 5 main clusters including management, marketing, production, technical and Toyota institutes. There are 8 more special units under the direct command of the president which are responsible for activities and communications among different clusters. These units are internal audit office, project office, customer satisfaction promotion office, public affair office, safety and environment promotion office, export administration office, corporate planning office and government relation office.

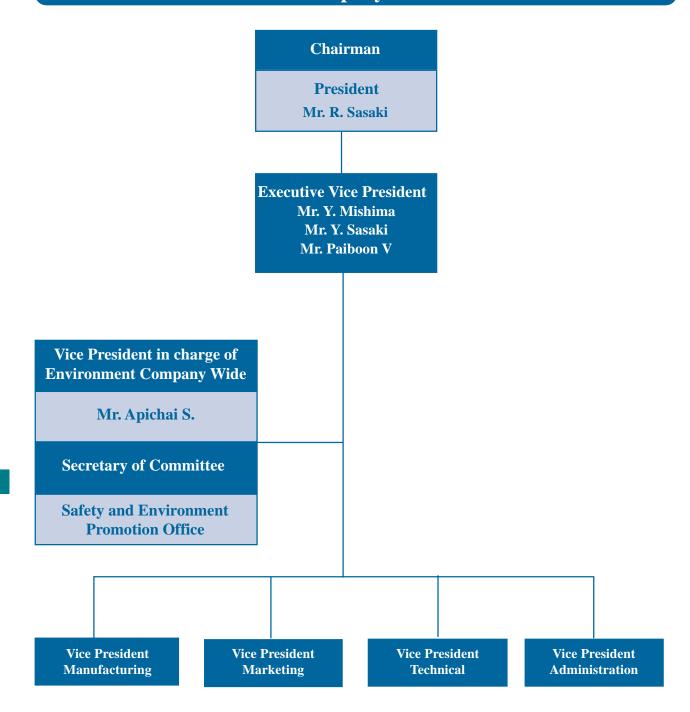
In addition, there are 11 more affiliated companies including:

- 1. Hino Motor Manufacturing Co., Ltd., producing trucks
- 2. Siam Toyota Manufacturing Co., Ltd., manufacturing and assembly of engines
- 3. Toyota Auto Body (Thailand) Co., Ltd., producing and OEM of car and truck body parts
- 4. Thai Auto Work Co., Ltd., manufacturing and assembly of Fortuner
- 5. Thai Auto Conversion Co., Ltd., producing car accessories

- 6. Toyota Body service Co., Ltd., the largest Toyota body repairing and painting service center in the South East Asian region, with 120 repair slots for servicing 12,000 cars per year.
- 7. Toyota Leasing (Thailand) Co., Ltd., joint venture between domestic and international financial institutions and affiliated companies, offering financial support for the dealers across the country to provide services to customers with installment plan basis.
- 8. Toyota Transport (Thailand) Co., Ltd., delivering new vehicles from assembly plants to dealers all over the country.
- 9. Toyota Automotive Technology Co., Ltd., operating private school (Toyota Automotive Technology School) for high vocational certificate in industrial techniques, automotive branch.
- 10. Toyota Technical Center Asia Pacific Co., Ltd., serving as a regional R&D center to develop products that meet the demand of customers in the Asia Pacific region.
- 11. Rachamongkol Rice Co., Ltd. (RRC), operating rice mill.

In 2003, Toyota Technical Center Asia Pacific Co., Ltd. (TTC-AP) was established in Thailand to serve as a regional R&D center to develop products that meet the demand of customers in the Asia Pacific region and at the same time to diversify more advanced products. Initially, TTC-AP has developed and improved some parts of the car. However, the long term goal is to design the whole new cars which will greatly benefit Toyota Motor Thailand. In 2004, Toyota Motor Thailand was proud to be part of the Toyota global strategy by initiating the Innovative and International Multi-purpose Vehicle (IMV) project. Toyota Motor Corporation in Japan assigned the responsibility for Toyota Motor Thailand to become the 1-ton pickup truck manufacturing center. This is a major step for Toyota Motor Thailand and Toyota worldwide. Under this project, trucks manufactured in Thailand are exported around the world in Asia, Europe and Africa. Moreover, Toyota Motor Thailand played an important role in supporting production base under IMV project in other countries such as Indonesia.

# Organization Structure of Toyota Motor Thailand's Environment Company-wide Committee





### **Environment & Social Related Awards**

### Success and Pride of Toyota Motor Thailand from 2000 to Present

From our hard efforts and dedication to produce high quality automobiles to serve customers' maximum satisfaction with safety and environmental consideration as well as our contributions to country development, investment, employment and economic drive by 2005 export of more than 116,531 million baht which supported Thailand to become Detroit of Asia, Toyota Motor Thailand Samrong Plant which manufactures Hilux Vigo under Innovative International Multi-purpose Vehicle (IMV) project for domestic and export market to more than 90 countries were accepted in terms of operation standards and honored by the Department of Industrial Promotion, Ministry of Industry to receive "The Prime Minister's Best Industry Awards 2006" which is the first company of this category.



# Toyota Motor Thailand Co., Ltd. (Samrong)

The Certificate of Admirable Industry "Environmental Management" from the Ministry of Industry 2000

The Prime Minister's Industry Award for Safety Management Category from the Ministry of Industry 2002

The Prime Minister's Industry Award for Environmental Management Category from the Ministry of Industry 2003

The Prime Minister's Industry Award for Productivity Management Category from the Ministry of Industry 2004

The Prime Minister's Industry Award for Quality Management Category from the Ministry of Industry 2005

The Prime Minister's Best Industry Award from the Ministry of Industry 2006



# Toyota Motor Thailand Co., Ltd. (Gateway)

The Prime Minister's Industry Award for Safety Management Category from the Ministry of Industry 2000

Healthy Workplace from Department of Health from the Ministry of Public Health 2000

The Excellent Practice for Drug Prevention and Solution at Workplace from the Department of Labour Protection and Welfare of Chachoengsao Province 2001

The certificate of Admirable Industry "Commitment to the Excellent Industrial Standard on Environmental Quality Preservation" from the Ministry of Industry 2001

The Best Safety Award for Occupational Health and Working Environment from the Ministry of Labour 2002

The Best Safety Award for Occupational Health and Working Environment from Ministry of Labour 2003

The Best Safety Award for Occupational Health and Working Environment from the Ministry of Labour 2004

### **Employee Related Awards**



Outstanding award for labour welfare 2003-2005 in the category of large scale production and construction, bestowed by the Ministry of Labour

2003-2005 Outstanding award for relationship building in the category of large scale enterprise with labour union by the Ministry of Labour

Basic level Thai Labour Standard award by the Department of Labour Protection and Welfare, Ministry of Labour

### **Customers Related Awards**



### 2005 Thailand Initial Quality Study (IQS) from J.D. Power

Excellent mid-sized passenger car Corolla Altis (2 consecutive years)

1 ton pickup truck: Excellent load Standard Hilux Vigo
1 ton pickup truck: Excellent cab-type Extra cab Hilux Vigo
1 ton pickup truck: Excellent 4-door type Double cab Hilux Vigo

# 2005 Thailand Automotive Performance, Execution And Layout Study (APEAL) from J.D. Power



Mid -sized passenger car Corolla Altis

1 ton pickup truck: Excellent load Standard Hilux Vigo
1 ton pickup truck: Excellent cab-type Extra cab Hilux Vigo
1 ton pickup truck: Excellent 4-door type Double cab Hilux Vigo

### 2005 Thailand Automotive Quality Award (TAQA)

small-sized passenger car

large-sized passenger car

Soluna Vios

Camry

SUV

Fortuner

1 ton pickup truck: 2-door, 4 wheel drive

Hilux Vigo

Hilux Vigo

Note: Survey conducted by Thai Productivity Institute in cooperation with Manager newspaper, Custom Asia Co., Ltd. and Inter-Media Consultant Co., Ltd.

### Car of The Year 2005

**Best SUV** 

Diesel engine SUV Fortuner 3.0 V

**Best Pick-Up** 

4-wheel drive: Extra cab

4-wheel drive: Double cab

Hilux Vigo Extra cab 3.0 G

Hilux Vigo Double cab 3.0 G

Fuel efficiency and low emission Technology Hilux Vigo 3.0

Note: Survey conducted by Society of Automotive Engineers Thailand (SAE), Thai Automotive Journalists Association (TAJA), The Royal Automotive Association of Thailand under Royal Patronage (RAAT) and Grand Prix International Co., Ltd.

### **International Award from Toyota Motor Corporation Japan**

Distributor of the Year 2005 Award from 2005 CS Kaizen Marathon Conference Kuala Lumpur, Malaysia.

Best Owner Contact Report Award from Repetitive Customer Complaint Prevention Report



## **Environmental Performance**

**Executive Statement** 

**Basic Concepts on Environment** 

**Environmental Accounting** 

**Environmental Action Plan** 

**Reduction of Substances of Environmental Concern (SoCs)** 

Biodiesel Production from Jatropha for Diesel Engine

**Energy Conservation** 

CO, Reduction (Logistics)

**Water Consumption Reduction** 

**Waste Reduction** 

Reduction of Volatile Organic Compounds (VOCs) Emission

**Environmental Performance Data** 

**Environmental Goals and Results** 

Referred to designing, researching & developing in automotive industry, these do not appear only in improving of model and a consumer's convenience, but society and environment are concerned. Therefore, nowadays technological development in automotive industry, for instance, improvement of fuel's property, emission reduction and recycle of auto-parts and automobiles are given the importance to the environmental protection.

Toyota Motor Thailand is willing to adopt a policy from headquarter company, Toyota Motor Corporation to design and research & development of automobiles and parts in order to achieve the company's objectives in term of society and environmental improvement.

Alternative fuel is one of the most interesting topics, which was declared a national agenda. This seems to be a good cooperation between Toyota and government sectors in, for example, the use of Gasohol (E10). Toyota Motor responded to the policy by developing the system of every model of Toyota cars such as the developing of electronic fuel injection system which to be able to effectively apply for Gasohol E-10. In addition, advantages of Gasohol for the country are to reduce fuel imports and MTBE, as a result, reduce the country's trade deficit about 3,000 million baht/year. Gasohol also helps sustain the price of agricultural products such as sugarcane, bagasse and cassava. More importantly, Gasohol is 1.5 baht cheaper per liter than gasoline 95 octane number. Moreover, Gasohol reduces air emission as the engine emits lower hydrocarbon and carbon monoxide, thus, resulting in lower health-related expenditures.

Since then, we keep our stand in continuity the study of alternative fuel both Gasohol and Bio-Diesel. For bio-diesel that is especially produced from "Jatropha curcas oil" to replace diesel and as a result, reduce fuel imports. Besides, we also carry on the engine development for CNG which can be extracted from natural resource in Thailand.





According to "Happiness Workplace by achieving all KPIs" which is considered to be Plant Mission, it keeps us stand to manage Toyota Motor Thailand to be Happiness Workplace with great security and magnificent environment. Furthermore, we willingly carry on the concrete policy from Parent Company, Toyota Motor Corporation to be the number one of Automotive Industry in national Environmental Management. Therefore, we established the vision to go towards all benevolent activities leading us to be the number one in Environmental Management as hereunder;

- by utilizing Robot Technology, RTO for reducing VOCs which were emitted from painting process, Glove Reusing, Forklift Zone Placement to reduce CO<sub>2</sub>.
- 2. We aim to reduce Energy Using, for instance, Electricity, LPG, Heavy oil and Water by conducting Survival Project which is a good coordination among Cost Group, Utility Group and Environment Group.
- 3. We dedicate our effort to manage our workplace to be pleasant and clean, thus, we give the importance in 5S system which is the fundamental in preparing our plant to be the 2<sup>nd</sup> Pillar of Sustainability

In addition, as social environment benevolent activities, we are supporting the Stop Global Warming Project by a good coordination between Thailand Environment Institute, Chachoengsao Province local schools and employees and their families to participate in "Mangrove Education Camping" which aimed to educate about Global Warming Effect and also provide consciousness about sustainable mangrove natural resources conservation.

In all of the projects mentioned, Toyota Motor Thailand has dedicated its efforts, intention, technology, human resources as well as financial support to ensure the success of their deliberations in accordance to the desired objectives. The Social project was supported and carried out the social benevolent activities by the committee, the support ensure that the efficiency and effectiveness of the operation yields maximum benefits and serves as a righteous model for further improvement, Since then, we keep our stand in continuing the study to reduce environmental impacts for sustainable environment development.



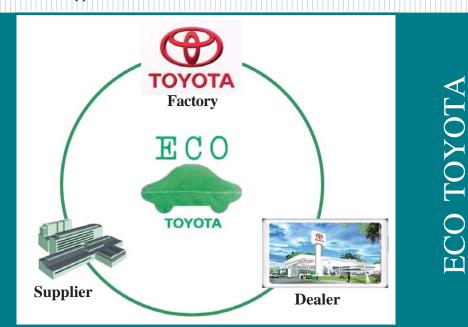
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Surapong Tinnangwatana Vice President

### **Basic Concepts regarding Environment**

Among automobile manufacturers in Thailand, Toyota Motor Thailand is the leading company with the highest production capacity. In 2005, Toyota Motor Corporation chose Thailand as a production and export base of pick-up trucks throughout the world. In 2007, Toyota Motor Thailand plans to expand the production capacity by opening a new plant at Ban Pho, which will result in the production and sale of more than 400,000 to 700,000 cars per year in the near future.

No matter how much the company expands, the principle of continuous and sustainable growth along with Thai society remains strong. Therefore, sustainable management of the environment is one of the activities that Toyota Motor Thailand continues to do. We disseminate the environmental management system to our partners which include our factories, suppliers and dealers.



Nowadays, the environmental impacts from Toyota Motor Thailand's operation are controlled within the acceptable limits. The results of air, water and noise monitoring show that we are complied with the laws and perform better than these regulations. Toyota Motor Thailand controls and prevents pollution from disturbing nearby communities. For example, we implement odor control system using wet scrubber, cyclone and incinerator. We have Volatile Organic Compounds (VOCs) reduction activity, treated water re-utilization within the factory, chemical spill prevention program, minimize waste using 5 Rs (refine, reduce, reuse, recycle and retrieve), zero landfill concept and noise prevention from the production source.

### **Toyota Motor Thailand Environmental Accounting**

### **Environmental Cost**

	Ta	Details	Cost (April'04 - March '05) (Baht)			Cost (Apri	Performance		
	Item	Details	Samrong	Gateway	Total	Samrong	Gateway	Total	FY 05-06
		Waste Processing	3,366,481	2,408,360	5,774,841	4,463,518	2,454,912	6,918,430	up 20%
osts	Expenses related to environmental measures	Wastewater Treatment	4,905,112	4,440,730	9,345,842	5,753,085	5,037,458	10,790,543	up 15%
$\circ$	chynomichar measures	Monitoring Cost (Wastewater and Air Quality)	2,808,665	1,266,300	4,074,965	1,073,742	1,043,504	2,117,246	down 48%
Maintenance	Professional Enviornmental Staff Expenditure	Personnel Expenditure	6,900,000	3,180,000	10,080,000		$\longrightarrow$	8,784,000	down 12%
ainte	Environmental Restoration Expenditure	Soil and Groundwater Remediation	218,000	-	218,000	-	-	-	-
M	Awareness Building	Environmental Report		$\longrightarrow$	303,077		$\longrightarrow$	340,527	up 12%
	Expenditure	Awareness Building Medias		$\longrightarrow$	110,000		$\longrightarrow$	82,000	down 25%
nts	Plant and Equipment Investment with the primary objective of	Prevention of Air Pollution (RTO : 3 Units)	50,600,000	-	50,600,000	0	60,000,000	60,000,000	up 18%
tme	improving the environment	Prevention of Wastewater Pollution (Wastewater Treatment Plant Expansion)	86,013,000	-	86,013,000	0	5,259,0000	5,259,000	down 93%
Investments	Environment - related	Social contributions / Contributions to environmental organizations		<b>─</b>	1,290,000			10,387,490	up 705%
Envi. I		Surveys, education and training		${\longrightarrow}$	620,000			468,000	down 24%
En		ISO Certification Acquisition Expenditure	266,000	109,100	375,100	171,000	155,000	326,000	down 13%

	FY 2004	FY 2004 (April '04 - March <b>'</b> 05)			FY 2005 (April '05 - March '06)			Performance FY 05-06	
Economic Effect Data	Reduction	Unit Cost	Effect	Reduction	Unit Cost	Effect	Reduction	Effect	
	(ton CO <sub>2</sub> )	(baht/ton CO <sub>2</sub> )	(baht)	(ton CO <sub>2</sub> )	(baht/ton CO <sub>2</sub> )	(baht)	%	%	
Reduction in Energy	6,933	6,440	44,648,520	14,669	4,636	68,003,192	Reduce 111%	Reduce 52%	
Reduction in Waste Processing	*-971	1,965	*-1,908,015	2,707	2,282	6,177,292	Reduce 379%	Reduce 424%	
Total			42,740,505			74,180,484		Reduce 74%	

<sup>\*</sup> Due to the expansion of production to facilitate IMV Project, sludge drying bed is no longer in use

# 2006-2010 TMT Environmental Action Plan : Goals & Guideline *Mission: To be the leading automobile company in Thailand* in terms of Environmental Management

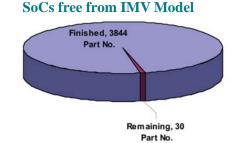
Area	Guideline		Goals	Specific Action
Global Warming & Energy	1. Management of CO <sub>2</sub> Emission from TMT and Affiliated companies: Production, Logistic, Building, After Sales  TMT 's CO <sub>2</sub> emission  CO <sub>2</sub> Tors/Unit  0.4 0.2 0.47 0.4 0.2 27.66%  Ban-Pho Plant  Logistic		CO <sub>2</sub> Emission reduction  G/W)  2010 CO <sub>2</sub> Target by TMC 20% reduce from 2001  a 0.8 Tomcunit  TMT already achieved by 2005  TMT FY2010: CO <sub>2</sub> Target: 10% reduce from 2010  co 1 Tomc/Unit within 2010  G/W Reduce CO <sub>2</sub> Emission  10% from FY2005  CO <sub>3</sub> Target: 10% reduce from 0.39 to 0.35 Tomc/Unit 2007 - 2010 (Benchmarking to maintain no.1 among automobile companies)  2006: Grasp Situation (Part supply, Service part, Vehicle) 2007 - CO <sub>3</sub> Reduction target setting 2007 - 2010: Implement reduction and Kaizen activities	Samrong  1. Improve machine & equipment efficiency 2. Retrieve energy from oven & stream system 3. Change lighting and electric equipment  Office by CA 1. Change electronic ballast for all S/R office 2. Ultilize aluminium reflector & alternative energy  Gateway 1. Change Fuel Boiler to LPG type 2. Separate stream supply to Resin & Paint shop 3. Reuse stream condensate 4. Automatic operation in Air blower  1. Solar cell installation for office building 2. Co-generator installation  1. Milk Run expansion & Routing Kaizen 2. Increasing of Loading efficiency
	2. Promote development and introduction of alternative fuel vehicle and green technology product: Gasohol, E10/20, Bio-diesel, Hybrid	After Sales Products	2010: 10% energy consumption reduction from 2006 among all dealer's service shops  Promote and Development of Green energy to public Gasohol E20 Hybrid NGV, Bio-Fuel	Stablish energy reduction guideline for dealer     Training to all dealers & follow up     Energy reduction target setting     Enhance research and development by corporate with Oil companies & Government     Study & Negotiate with TMC & TMAP to introduce Hybrid
	3. Promote initiatives to improve traffic flows using a variety of networking technology	Public	Initiate to improve traffic flows in cooperation with Government Sector	Study new technology or methodology to improve traffic flow in metropolitan area and propose to Government sectors     Support know-how, manpower, and other resources to Government Sector
Recycle of Resources	Promote the effectiveness use of resources to further contribute to realization of a	Gateway	Waste reduction  Reduce > 5% from 2005 within 2010 (Maintain no.1 among automobiles companies)	Maintain Zero waste to landfill     Reduce Incinerated waste     Increase waste reduction activities at sources     Implement technology to utilize waste
	recycling based society	Samrong	Reduce > 5% from 2005 within 2010	Reduce Waste water sludge by change coagulant     Resue of proactive material     Establish waste exchange center
		Ban-Pho Plant	2010: 4.92 Kg/unit (No.1 same Gateway plant) 2007: Implement Zero waste to landfill activities	I. Implement Zero waste to landfill activity     Implement Waste fertilization machine     Implement Waste reduction at sources
		Logistic	2006: Grasp Situation (Part supply, Service part) 2007: Reduction target setting for Packaging and Wrapping material 2007: Implement reduction and kaizen activities	I. Increase efficiency of boxes, modules, containers     Re-design for packing spec. to reduce waste     Use common packing material, recyclable material
		Marketing	2010: 100% ultilize recyclable material in dealers' promotion media	1.Use recyclable material for promotion media
	2. Reduce water consumption	Samrong	Water Reduction  2010: Reduce water consumption to 2.90 m³/unit (Maintain no.1 among automobiles)	Reuse brine water, treated water and rain water     Recycle ASU water by filtration & UV system     Automatic control equipment & air cool system
		Gateway	2010:Reduce water consumption to 3.24 m³/unit	Changing of water supply to ASU, Chiller from RO water to city water     Reuse brine water & ASU condensate
		Ban-Pho	2007: Water consumption 2.14 m3/unit (To be no.1 among automobile companies) 2008: Implement reduction at sources activities	Establish water recycle plant     Strengthen to reuse treated water
Substances of concern (SoCs)	1. Promote management and further reductions in the use of substances of concern	Products & Service parts	Eliminate use of SOCs Banned 2007: All products comply with SoC regulation Volunteer to eliminate (Lead, Mercury, Cadmium, and Hexavalant Chromium)	I. Implement SoC Ban requirement to suppliers     Supplier's audit
Atmospheric Quality	2. Reduce emission to improve air quality in areas	Products	Low Emission and Clean Energy Vehicle 2010: All Toyota vehicle comply with Euro 4 level	Promote the development of ultra-low emissions technology and introduce the best-performing low- emission vehicle according to Govt.policy and Global trend     Introduce Euro 4 level vehicles

# 2006-2010 TMT Environmental Action Plan : Goals & Guideline Mission: To be the leading automobile company in Thailand in terms of Environmental Management

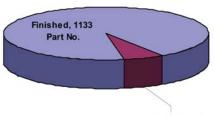
Area	Guideline		Goals	Specific Action
Atmospheric Quality	3. Initiative to reduce VOC		Low Emission and Clean Energy Vehicle	Samrong
	emission	Samrong	2010: Implement VOC reduction activities to achieve VOC 50 g/m <sup>2</sup>	Strengthen thinner recovery activities     Optimize paint and thinner consumption, flow meter installation
		Gateway	2010: Implement VOC reduction activities to achieve VOC 55 g/m <sup>2</sup>	Gateway 1. Strengthen thinner recovery activities 2. Implement High solid clear & continual improvement Kaizen
		Ban-Pho	2007: VOC target 35 g/m² (To be no.1 among automobile companies) 2008-2010: VOC reduction activities	I. Installation of Water base painting     Installation of RTO incinerator for ED paint process
Engine was autol	1.Strengthen consolidated		<b>Eco-Factory</b>	Cooperate with TMC to establish Eco-factory Guideline and Checklist
Environmental Management	Environmental Management	Samrong / Gateway Thai Auto Work Ban-Pho	2006: Implement Eco-factory activities (Expansion project) 2007: Implement Eco-factory activities (Expansion project) 2008: Implement Eco-factory activities (Expansion project) Consolidated Environmental Management: Production	2. Establish auditor team for Eco-factory
		Samrong / Gateway	2006: Toyota EMS (Global audit) implementation & improvement  1. Compliance, Non-Compliance  2. Minimizing of Environmental Risk  3. Increasing of Environmental Performance	
		Ban-Pho	2007: Achieve and Maintain no.1 Environmental Target 2007: Achieve ISO14001 / TIS / OHSAS18001 Certification 2007: Achieve & Maintain Toyota production policy 1. Compliance, Non-Compliance 2. Minimizing of Environmental Risk 3. Increasing of Environmental Performance	1. Toyota EMS training at TMC     2. Training for Toyota EMS (Self Assessment audit )     3. Establish auditor team for Toyota EMS (Self-Assessment)     4. Continual improvement (S ==>D ==> C ==> A)
		Thai Auto Work Toyota Body Service Service Part Center Training Center	2007-2010: Toyota EMS & Global Audit Implementation & Improvement 1. Compliance, Non-Compliance 2. Minimizing of Environmental Risk 3. Increasing of Environmental Performance	
	2. Further promotion of	Cons	olidated Environmental Management: Dealers, Suppilers	1. Follow up ISO14001 suppliers and new suppliers to be ISO14001 certified
	Environmental Management	Purchasing	2006-2010: Maintain ISO 14001 Suppliers & Yokoten Best Practice	2. Establish Yokoten activities of Best Practice to all suppliers
	at Business partners	After Sales	2006-2010: Maintain ISO14001Dealers and follow up New ISO14001 Dealers 2008: 100% Dealer achieve ISO14001 Certification	1.Conduct ISO14001 tranining & Support activities to concerned dealers
			2010:100% of Dealer complete Dealer Environmental Risk Audit Program	1.Implementation of 5 fundamental Environmental responses to all dealers
	3. Enhance Environmental		Environmental Education	Conduct & Promote Environmental, Safety and Health Awareness Training
	Education	TMT and all Affiliated companies	2006-2010: To Maintain & Develop Environmental, Safety and Health training to all employees	to all areas and all employees
	4. Cooperation with Society		Contribute to development of recycling based society	2006-2010
	4. Cooperation with Society	TMT and all Affiliated companies	To be admired as the leading company in Thailand in theme of Environment	Expand "Stop Global Warming project" to 76 provinces     Expand "Vegetable garden (Pesticide free) & Children playground project" to     10 primary schools of Samutprakarn & Chachoengsao province     3.Expand "Reforestation project" to 5,000 rai area     4. Support establishment of environmental sustainable knowledge and develop environmental curriculum at Bangpoo Nature Education Center (2,000 Schools)     5. Establish social contribution with dealers & suppliers
	5. Improve disclosures of		Environmental Communication	2006-2010
	Environmental information and two-way communication	TMT and all Affiliated companies	To be admired as the leading company in Thailand in theme of Environment	Establish Environmental communication between TMT, NGOs, Government and communities at least 1 time a year     Conduct environmental training for the public at least 3 times/year     Distribute environmental report and establish environmental website
	6. Support Environmental		Confirm Environmental Reputation & Leadership	1. To create environmental perception and awareness (Internal & External) in
	Consciousness of Thai Society via Marketing and PR	TMT and all Affiliated companies	To be admired as the leading company in Thailand in theme of Environment	all aspects concerned with Toyota 2. To reinforce environmental brand image by cooperating with environmental creditability alliances holding the activities 3. Holding activities in order to create and embed environmental preserving conscious with all Thai citizens which aim at all target groups 4. Utilize Green Technology Logo in all Toyota POP material such as catalogue, brochure, leaflet, etc. (under study of Lexus POP) 5. Present "Green Technology" to public such as Motor show 6. Publishing "Green Technology" in active news magazine to promote the activities 7. To publicize nationwide the reputation of Toyota of Environmental care and Green service shop

### **Reduction of Substances of Environmental Concern (SoCs)**

Due to Toyota Global SoC free Policy and the IMV Project that exports parts and automobiles to several countries that restricts the use of hazardous substances as regulated by the European Union's directive on Restriction of Hazardous Substances (RoHS), Toyota Motor Thailand Co., Ltd. adopted these policy and regulation and has been continuously reducing these SoCs. Lead (Pb), Mercury (Hg), Cadmium (Cd) and Chromium VI (Cr<sup>6+</sup>) were banned from all parts. Toyota Motor Thailand also aims to eliminate all SoCs from all parts. In 2005-2006, the result of SoCs restriction in IMV and Yaris Models are shown in the figure. However, Toyota Motor Thailand will ban all the SoCs by the end of 2007.







Remaining, 76

### **Bio-diesel Production from Jatropha for Diesel Engine**





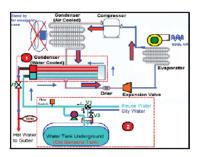




His Majesty the King Bhumiphon's concern about the oil crisis and his initiative on alternative energy led to the cooperation between Toyota Motor Thailand Co., Ltd., Toyota Technical Center Asia Pacific (Thailand) Co., Ltd. (TTC-AP), PTT Public Co., Ltd. and Kasetsart University to conduct a research and development project on bio-diesel production from Jatropha. The objectives of the project include: to study the Jatropha species that is suitable for Thai climate; to investigate pests and diseases involved; to find out the best production process for optimum output; to evaluate environmental, economic and social impacts from Jatropha plantation and bio-diesel production and to study and analyze bio-diesel properties, engine part corrosion, oil injection, engine wear and emission. This project could serve His Majesty's remark on renewable energy and maximize benefits of the country. Toyota Motor Thailand Co., Ltd. and Toyota Technical Center Asia Pacific Co., Ltd. provided financial support, information and equipment for the project.

The result of the research is expected to show the best species of Jatropha and plantation method suitable for Thailand to develop further as a commodity plant. It is expected to become alternative energy source which will reduce oil imports and improve agricultural development. Moreover, information resulted from this project can be used for further development, make Thailand less fossil oil dependent and create more jobs.

### **Energy Conservation**







To improve energy efficiency in conjunction with our commitment to continual improvement in reduction of energy and environmental impacts, from April 2005-March 2006 Toyota Motor Thailand Co., Ltd. took several steps to achieve reduction target. The yearly average of energy consumption was 2.76 GJ/unit of production which was 0.4 GJ/unit lower than the average consumption from April 2004-Mar 2005 which was 3.16 GJ/unit. This resulted in 12.6% reduction of energy. An example of activities taken to reduce energy consumption in the period of April 2005-March 2006 includes:

# Modification of air conditioning system in the office by replacing air cooled condenser fans with water cooled condenser

Toyota Motor Thailand has adopted the concept of Reuse & Recycling for energy reduction by utilizing treated wastewater for cooling of 29 air conditioners used in the office. Old gasoline drums were cleaned and modified as containers for retaining treated water to be used for cooling down the condenser units. Air cooled condenser fans were substituted by water cooled condensers which were able to reduce the heat transfer to the ground for 7-10 °C. This led to the saving of 182,999 BTU/year which is equivalent to 19% reduction. The performance of the modified air conditioning system was similar to the old system using fans while compressor loads were reduced.



### CO, Reduction (Logistics)

### **Progress Lane**

In Toyota Motor Thailand production line, delivery of a small number of automobile parts is required with high frequency. Therefore, suppliers of the automobile parts must frequently deliver a small amount of parts to Toyota Motor Thailand. This leads to the high distribution cost because the loading efficiency is low and a large number of trucks coming to Toyota Motor Thailand will create traffic congestion at the delivery area. As a result, inventory with Progress Lane system has been applied by receiving the same amount of parts from suppliers but taking several orders at a time. Each order will be set for different Progress Lane Number consisting of 36 lanes. From the Progress Lane, small amount of parts are frequently delivered to the production line, one lane at a time.

### **Progress Lane Achievement**

- 1. Easy to determine if the production is faster or slower than the schedule; therefore, part delivery can be controlled more efficiently.
- 2. Parts can be frequently delivered even each trip can delivers small amount of parts; therefore, the delivery is more efficient.
- Inventory of automobile parts can be reduced.
   Consequently, the space needed for stocking parts can be reduced.
- 4. The number of delivery trips can be reduced.

### Milk Run System

### Milk Run for Energy and Cost Saving and Service Enhancement

The Milk Run system, which has been commonly used by Toyota in Canada and Europe, was implemented in Thailand for the first time on February 26, 2001. The system has been improved since then.

Toyota Motor Thailand has developed and improved the Milk Run System. In the past, each part supplier had to deliver parts to Toyota Motor Thailand directly which led to part management problem as there were a lot of suppliers. Parts were delivered with low frequency; therefore, a large number of parts were required in each delivery. A large number of parts delivered less frequently led to high inventory. Therefore, Toyota Motor Thailand grouped the suppliers in the same area and then received the parts from the area.

The distribution of automobile part suppliers can be grouped into 5 zones as follows:

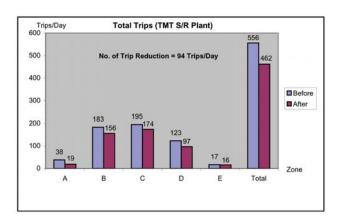
- 1. Zone A: Ayuthaya, Saraburi, and Patumthani
- 2. Zone B: Bangkok and the vicinity area
- 3. Zone C: Chonburi (AMATA Industrial Estate)
- 4. Zone D: Rayong (Eastern Seaboard Industrial Estate)
- 5. Zone E: Chachoengsao and Prachinburi

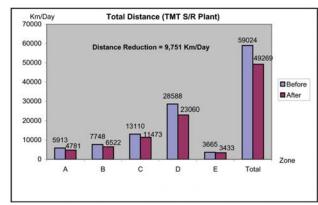
#### **Benefit for Production**

- 1. The frequency of delivery can be increased; therefore, inventory stock of both producers and Toyota Motor Thailand decreases. A lot of products previously requiring lots of space led to non-systematic management. In stead, space needed for the warehouse was decreased. Moreover, TPS: Toyota Production system can be complied.
- 2. Carrying capacity can be increased: cost from direct delivery by small to medium suppliers cannot be low enough. This led to the higher manufacturing cost for Toyota Motor Thailand. Milk Run can solve the problem occurring from suppliers with small amount of products by dividing the area in the truck for different suppliers which can help lower delivery cost.
- 3. Delivery time can be balanced. As Milk Run is operated by Toyota; therefore, smooth delivery (Heijunka) can be achieved. As a result, the workload at the delivery point can be appropriately shared. Also the time for producers and Toyota Motor Thailand can be balanced.
- 4. As the inefficient work decreases and systematic management is achieved; therefore, delivery and production costs can be decreased. This is a Win-Win solution since Toyota Motor Thailand and suppliers get the benefits from this application.

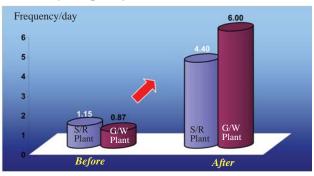
### **Benefit to the Environment**

Since the Milk Run System has been applied in 2001, loading capacity was increased whereas the frequency of delivery and the number of trucks were decreased. Consequently, emission of carbon dioxide, one of the air pollution from fuel combustion which causes global warming effect, can be decreased.





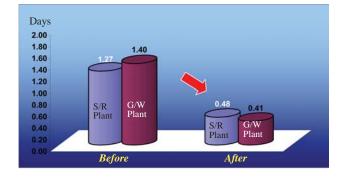
### 1. Delivery Frequency



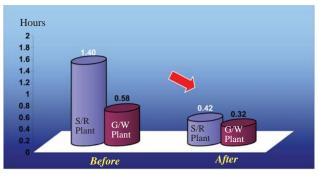


# Good

#### 2. Stock Time

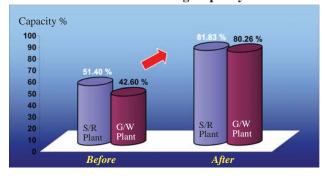


### 3. Delivery Time





### 4. Loading Capacity of the Truck



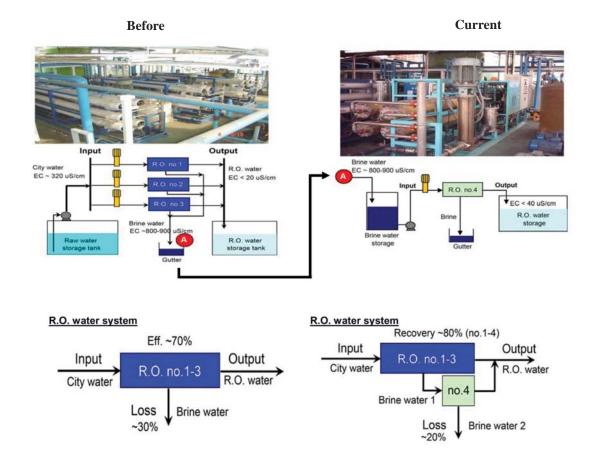


### **Water Consumption Reduction**

Water is one of the resources that is given high priority for efficiency and maximum utilization by Toyota Motor Thailand. From April 2005-March 2006, the amount of water consumption was 3.07 m³/unit of production which was 0.29 m³/unit of production lower than the amount of water consumption from the year before or equivalent to 8.6% reduction. In addition to reuse of treated water for cooling condensers and reduction of water passing through boiler valve, Toyota Motor Thailand took the other activities to conserve water as follows:

## Reclaiming Reverse Osmosis (R.O.)-quality water from brine water treatment

With the intention to reduce tap water consumption, additional R.O. water system (the 4<sup>th</sup> machine) was installed to treat brine water from the first 3 units of R.O. water system. From this modification, 39,321.5 m³/year of tap water can be saved and 1,309 kWh/year of electricity can be saved.





### **Waste Reduction**

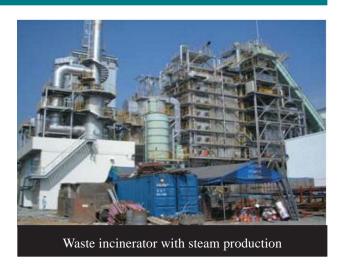
Waste reduction policy emphasizing on Recycle, Reuse and Reject is always practiced by Toyota Motor Thailand Co., Ltd. From April 2005-March 2006, Toyota Motor Thailand took the following activities to reduce the amount of waste:

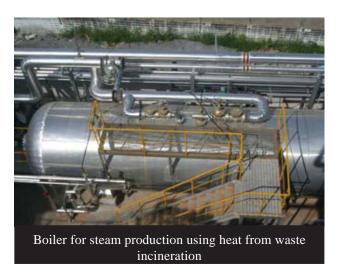
## **Zero Landfill Waste by Recycling and Incineration** to produce steam

Since 2005, Toyota Motor Thailand has implemented Zero Landfill Waste disposal. In addition to the cancellation of landfill disposal, waste can be more recycled up to 8.27% which resulted in less amount of waste to be incinerated. The portion of waste to be disposed of by incineration is incinerated by the government-approved-and-owned facility and heat is generated to produce steam.

### Reduction of cotton gloves disposal by reuse

Large amount of cotton gloves waste are generated from automotive assembly. Currently these gloves are burned as supplement fuel in cement kiln. However, Toyota Motors Thailand is aware of the importance of glove waste reduction without impacts on production process and employee operation. These gloves, therefore, were experimentally sent to the qualified facility to be washed and returned to employees for reuse. This resulted in the reduction of 36% or 0.25 kg/unit of production. This practice has been continued.















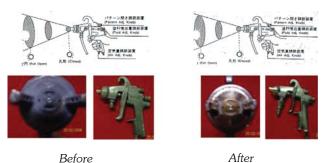


### Reduction of Volatile Organic Compounds (VOCs) Emission

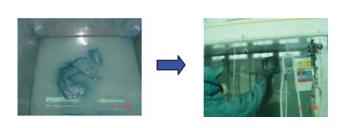
VOC reduction is one of the targets set by Toyota Motor Thailand Co., Ltd. for environmental conservation. From painting process, it was found that from April 2005-March 2006, annual average VOC was 56.16 g/m² which was 3.27 g/m² lower (5.5%) than the previous year. For the last fiscal year, Toyota Motor Thailand conducted the following activities to reduce VOC:

## Reduction of thinner which is the main source of VOC emission

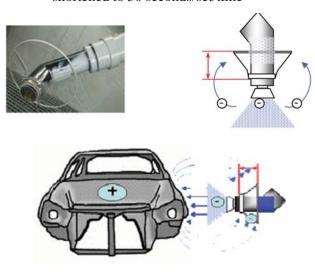
Thinner reduction by applying high volume low pressure gun. IWATA W-90 model spray gun for cleaning M/C and Robot paint nozzle was replaced by W-200 High Volume Low Pressure model. 0.1 g/m<sup>2</sup> of VOCs can be reduced.



Thinner which is used for cleaning of protective gowns can be reused for cleaning of tools and equipment instead of disposal as waste thinner. 0.22 g/m<sup>2</sup> of VOCs can be reduced.



Reduce VOCs from cleaning of robot's arm by expanding corona ring from 5 cm to 8 cm, resulting in over spraying. 308.44 liters per month of thinner can be saved, which is equivalent to the reduction of 0.14 g/m<sup>2</sup> of VOCs. In addition, cleaning time can be shortened to 50 seconds/set/time



Thinner which is used in the second flushing can be reused for cleaning of tools and equipment in mixing room. 0.12 g/m<sup>2</sup> of VOCs can be reduced.





### **Environmental Performance Data**

### **Energy Consumption**

		FY 2004 (Apr.04 - Mar.05)	FY 2005 (Apr.05 - Mar.06)	Difference (FY 2005-FY 2004)
Electricity Consumption (kWh)		141,179,370.00	185,614,290.00	44,434,920.00
	Gasoline (kl)	-	-	-
	Diesel (kl)	-	-	-
	Heavy oil (kl)	38,969.80	34,660.80	- 4,309.00
	Kerosene (kl)	-	-	-
	Natural gas (m³)	-	-	-
	LPG (m³)	8,617.80	10,968.25	2,350.45
Total Energy Consumption (GJ/Unit)		3.16	2.76	- 0.40

### **Water Consumption**

	FY 2004 (Apr.04 - Mar.05)	FY 2005 (Apr.05 - Mar.06)	Difference (FY 2005-FY 2004)
Water Consumption (m³)	961,103.00	1,234,922.00	273,819.00
Water Consumption (m³/Unit)	3.36	3.07	- 0.29

### **Water Quality**

		FY 2005 (Apr.05 - Mar.06)		FY 2004 (Apr.04 - Mar.05)		Difference (FY 2005-FY 2004)	
		S/R Plant	Gateway Plant	S/R Plant	Gateway Plant	S/R Plant	Gateway Plant
	pH Value	7.05	8.12*	7.79	8.03*	- 0.74	0.09
	Total Dissolved Solids, mg/l	1,146.42	619.12*	1,279.38	716.04*	- 132.96	- 96.92
Treated Water	Suspended Solids, mg/l	9.04	46.55*	10.13	66.36*	- 1.09	- 19.81
(Average Value)	COD(Cr), mg/l	43.75	407.70*	38.78	563.77*	4.97	- 156.07
varue)	BOD, mg/l	5.08	183.20*	4.99	231.98*	0.09	- 48.78
	Oil & Grease, mg/l	1.16	3.99*	1.42	3.79*	- 0.26	0.20

 $<sup>*\</sup> further\ treated\ by\ central\ was tewater\ treatment\ system\ of\ Gateway\ Industrial\ Estate.$ 

		FY 2004 (Apr.04 - Mar.05)	FY 2005 (Apr.05 - Mar.06)	Difference (FY 2005-FY 2004)
	Volume of incinerated waste (tons) <a></a>	2,607.53	2,630.22	22.69
	Volume of landfill waste (tons) <b></b>	331.29	486.61	155.32
Waste	Volume of waste recycled (tons) <c></c>	40,940.79	73,584.24	32,643.45
	Volume of waste generated (tons) $<$ D = A + B + C $>$	43,879.61	76,701.07	32,821.46
	Percent of landfill waste (%) <b d=""></b>	0.75	0.63	- 0.12
	Total landfill & incinerated waste (Kg/Unit)	10.29	7.75	- 2.54

### **Chemical Substances**

		FY 2005 (Apr.05 - Mar.06)		FY 2004 (Apr.04 - Mar.05)		Difference (FY 2005-FY 2004)	
		S/R Plant	Gateway Plant	S/R Plant	Gateway Plant	S/R Plant	Gateway Plant
	Zinc, mg/l	0.18	0.17	0.12	0.30	0.06	- 0.13
	Lead, mg/l	0.04	0.04	0.023	0.15	0.02	- 0.11
Chi1	Nickel, mg/l	0.67	0.19	0.33	0.23	0.34	- 0.04
Chemical release from treated water	Mercury, mg/l	0.001	0.001	0.001	0.001	0.00	0.00
(average value)	Copper, mg/l	0.04	0.03	0.06	0.00	- 0.02	0.03
	Cyanide,mg/l	0.01	0.00	0.01	0.00	0.00	0.00
	Chromium(III), mg/l	0.02	0.05	0.03	0.00	- 0.01	0.05
	Chromium (VI), mg/l	0.01	0.00	0.01	0.00	0.00	0.00
	VOCs, g/m <sup>2</sup>	56	.16	59.	.43	- 3	.27
	TSP, % with Standard Value	17.05	21.8	12.17	4.54	4.88	17.26
Air Emission (average value)	Pb, % with Standard Value	0.1	0.14	0.77	0.1	- 0.67	0.04
	CO, % with Standard Value	0.85	12.1	9.02	5.65	- 8.17	6.45
	NO <sub>2</sub> , % with Standard Value	10.25	16.2	12.85	22.58	- 2.60	- 6.38
	SO <sub>2</sub> , % with Standard Value	0.8	5.91	19.02	20.46	-18.22	- 14.55
	Xylene, % with Standard Value	3.45	0.0005	12.75	0.8	- 9.30	- 0.80

### **Paper Consumption**

	FY 2004	FY 2005	Difference
	(Apr.04 - Mar.05)	(Apr.05 - Mar.06)	(FY 2005-FY 2004)
Paper Consumption (baht)	-	6,071,814.00	-

### **Environmental Goals & Result of Activities**

### **Objective Goals**

### 1. Promote countermeasures that help global warming

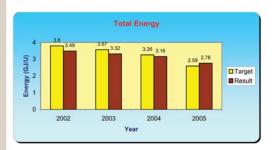
1.1 Develop proactive  $CO_2$  emission strategies which will allow Toyota to become a leader in the automobile industry in each region.

### **Implemented Items**

- 1. Improve ventilation of Air Condition in office from electric fan to heat exchanged by reused water (In house Activity)
- 2. Progress Lanes & Milk Run System
- 3. Improve machine & equipment efficiency by Energy Service Company (ESCO) / TMC
- 4. Retrieve energy from oven & stream system
- 5. Change lighting and electric equipment

### **Targets & Results**

		Total Energy (GJ/U)							
	2002 2003 2004 2005								
Target	3.80	3.57	3.26	2.59					
Result	3.49	3.32	3.16	2.76					

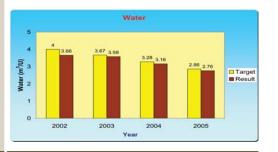


### 2. Conservation in water resources

2.1 Promote the development of countermeasures to reduce consumption of water resources.

- 1. Improvement RO Producer
- 2. Recycle ASU water by filtration & UV
- 3. Automatic control equipment & Air cool system

	Water (m³/U)			
	2002	2003	2004	2005
Target	4.00	3.67	3.28	2.86
Result	3.66	3.58	3.36	3.07

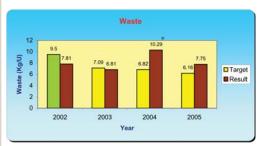


### 3. Reduction of disposed waste and resource usage minimization

3.1 Early achievement of zero landfill waste and promot zero emission activities

- 1. Reused Cotton Gloves Activity
- 2. Reduce Waste water sludge by change coagulant
- 3. Establish waste exchange center

	Incinerated and Landfill (Kg/U)				
	2002	2003	2004	2005	
Target	9.50	7.09	6.82	6.16	
Result	7.81	6.81	10.29	7.75	

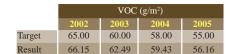


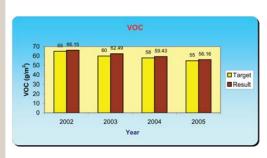
\* Include Waste from Renovation of IMV Project

# 4. Management and reduction of substances of environmental concern

4.1 Develop extensive VOC reduction strategies to become the regional leader in environmental performance

- 1. Thinner consumption reduction by High Volume Low Pressure gun
- 2. Reduce Cleaning Thinner
- 3. Thinner which is used for cleaning of protective gowns can be reused for cleaning of tools
- 4. Reduce VOCs from cleaning of robot's arm by expanding corona ring
- 5. Thinner which is used in the second flushing can be reused for cleaning of tools
- 6. Reduce VOCs from spraying of Yaris' vertical area of a door frame
- 7. Eliminate SOCs from IMV & Yaris Model







# **Social Performance**

**Executive Statement** 

**Social Summary** 

Social Contributing Projects 2005-2006

**Stakeholders** 

**Customers** 

**After Sales** 

**Suppliers** 

**Employee Satisfaction Index** 

**Employment** 

**Learning Organization** 

Asia Pacific Global Production (Training) Center

**Job Safety Promotion** 

**Stop Global Warming Project** 

**Mangrove Reforestation** 

**Dabos Project** 

**Toyota Thailand Foundation** 

From the long history of Toyota Motor Thailand Co., Ltd. the assets that are most valuable to Toyota are not expensive machineries, advanced technology or financial capital, but are human resources of our company. This is in line with Toyota Way which respects each other and would like to see all employees' career path advance and grow along with the company's growth.

Therefore, Toyota places importance on physical and mental happiness of employees and their family. To achieve this objective, Toyota has implemented Occupational Health and Safety Management System (TIS 18001) and Environmental Management System (ISO 14001) throughout the company and improved several operations up to international standards such as improving recruitment and payroll system to be in line with the company's growth and increase labor welfare monetarily and non-monetarily and internal relationships.

We also emphasize capacity building of employees to serve Toyota Way by organizing trainings to enhance knowledge and skills of employees to be capable of Asia-Pacific region business management. The trainings include all aspects i.e., production, management, after sales service skills and are provided to Toyota and subsidiary company employees, suppliers and dealers.

We never stop developing our management systems to continuously fulfill security in employees' lives which expectedly leads to the sustainable development of Toyota.



Wichien Emprasertsuk
Vice President



Nigorn Prasertsom
Vice President

Toyota Motor Thailand conducts several activities for environmental improvement continuously with the policy that requires subsidiary companies and part suppliers of more than 150 factories to be ISO 14001 certified. This will ensure that the whole production processes of Toyota will not have adverse environmental and social impacts.

To prevent unintentional environmental impacts from chemical substances, Toyota has investigated and banned the use of substances of concerns in parts that may pose harms to human and environment. The objective is to ensure that when parts or materials are recycled, disposed of or degraded in the future, these processes will not have adverse impacts on the environment.

In addition, Toyota plans to expand these concepts to logistics companies, machinery manufactures and service providers in the future.

As part of a sustainable development vision we have a long-standing commitment to protecting the environment. We have been involved in After Sale Service area, design for assessing dealer's services on the environmental impact through their entire life cycle and to reduce environmental aspects load at all processes for many years.

Starting from basic development of services with minimal environmental impacts via the effective practical management as 5 S activity and Dealer Environmental Risk Audit Program (DERAP). In 2003, we have incorporated our "environmental viewpoint" into all aspects management with ISO14001 to Toyota Dealers in which 54 dealers acquired for certifications for the first ever in Thailand. With the continual effort of nationwide dealers as well as their experience in KAIZEN made drastically increasing in a great number of ISO14001 certified Dealers up to 111 dealers (96%) in 2006.

We have committed to continue to do our best to realize aim together with Toyota Dealers as "Being the most reputable automotive company on Environmental Protection in Thai Society"



Pairoj Hiranruangrong
Vice President

### **Social Summary**

### **Basic Principle on Social Contributing Activities**

Friendship between Toyota and Thai people is a great and full of touching stories from the helpful minds. For the better Thai society, Toyota is very proud to be one of the contributors to Thai society. It is our intention to give back to Thai society as our motto says "Toyota is proud to grow up along with Thai society".

Toyota has been in operation in Thailand for more than 40 years. We intend to grow up along with Thai society in every aspect. Our basic principle on social contributing activities states that "We aim to be a good corporate in Thailand with the commitment to creating and improving the society in a sustainable way".

Social contribution is one of the important missions of Toyota world wide. Toyota Motor Thailand has placed its priority on social contributing activities which are based on our vision for social service as follows:

- 1. Promote and raise awareness on road safety for Thai society
- 2. Support environmental protection and natural resource conservation
- 3. Improve quality of life and value of community in terms of health, education, technology and social contributing activities by preserving traditional norm and culture of Thailand

In the FY 2006, Toyota Motor Thailand focuses on 2 main activity areas, which are road safety and environmental protection. Accident Reduction Campaign was launched this year to reduce traffic accidents especially during long holidays such as Songkran Festival and New Year. For environmental protection, Stop Global Warming Project was initiated to provide education on global warming effect and how to sustain global environment and natural resources. Both projects were aimed at creating the right attitude and awareness among Thai youth and general public.

In addition to those 2 projects, Toyota Motor Thailand gives priority to other contributing projects such as science and technology promotion, art and culture support program, community sport program, emergency rescue and projects carried out by Toyota Thailand Foundation (TTF).

In every project mentioned above, Toyota Motor Thailand has dedicated its human resource, technology and budget to support Thai society sincerely and seriously by ensuring the achievement of all projects.

Social Contribution Cost (million baht)					
Apr '03 - Mar'04   Apr '04 - Mar'05		Apr '05 - Mar'06			
83	178	247			

### Social Contributing Projects 2005-2006

#### Traffic Safety

#### 2005

- Promote active and passive safety driving via White Road and Safety Driving Campaign
- Equipments donation and training for safe driving

#### 2006

- Propel Traffic Safety through new traffic system and safety-oriented vehicle e.g. ITS, Traffic monitoring system & controller expansion to surrounding BKK area, Real-time traffic simulator broadcast to general audience
- Promote/cultivate safety driving habits in schools and in youths
- White Road Project
- Promote accident-free zone/area

#### Environment

#### 2005

- Support conservation and recycling activities and environmental protection measures
- Initiate multi fuel consumption or alternative energy programs including minimizing energy consumption from Toyota Motor Thailand operation, Stop Global Warming and Mangrove Reforestation projects

#### 2006

- Enhance research and development in alternative fuel and energy as well as energy conservation
- Promote green manufacturing and services, expand environmental and energy conservation concepts along the supply chain to affiliates and all Toyota Networks – dealers and suppliers
- Require Toyota business partners to be ISO 14001 certified
- Continuation of Stop Global Warming Project
- Eco-Factory concept
- Support national parks
- Reforestation in urban and rural area

#### **Promotion of Science and Technology**

#### 2005

- Improve skills through all levels in automotive industry e.g. AHRDP, TPA University Project, B&P T-TEP
- Transfer automotive technology to Thailand through H.M. The King project e.g. Pradabos school, Distance learning via satellite of Wang Klaikangwon School

#### 2006

- Demonstrate and transfer knowledge and technology to several sectors in Thailand such as local industries, government and academics e.g. Hybrid technology, green products, Green productivity, E10 and E20 gasohol and Bio-diesel
- Cooperate with Distance Learning Foundation of Patrol Border Police for the transfer of knowledge and technology via satellite

#### **Community Education and Others**

#### 2005

- Support social development programs nationally and locally e.g. District Rescue Equipment (Recreation park, Children day), scholarship, Donation (book & learning materials)
- Enhance quality of life in terms of environment, safety and education in our communities

#### 2006

- Support and strengthen all public social contribution networks and charity activities
- Expand promotion quality of life to all Toyota Network (dealers and suppliers) nationwide

### Stakeholders

According to good corporate governance principle which lays the foundation to promote efficient and effective management, competitive advantage and transparent and ethical business operation, Toyota Motor Thailand takes into account the rights and equity of our stakeholders including:

#### **Shareholders**

Shareholders can learn about past financial performance. For the previous year, results were informed and earnings were paid according to earning statements with approval from the annual meeting of shareholders.

### **Employees**

Employees are treated equally and fairly.





### **Vendors / Suppliers**

Procurement guideline was set clearly and transparently for selection and evaluation of suppliers and proper quotation.

### Dealers

- □ Equal incentive payment standard.





#### **Customers**

Toyota cares and is responsible for customers by producing high quality products, keeping customers' information confidential and assigning an office to handle complaints for fast response. The following systems are provided:

- **¤** Quality guarantee
- ☐ Fast fixing/solving problems by dealers (Fix-it-Right)
- □ Dealer shop audit

- □ Vehicle Delivery Quality Inspection (VDQI)
- ☐ Technical Diagnosis Center to analyze problems and find out solutions.
- Customer satisfaction was surveyed by JD
  Power in terms of Initial Quality Survey
  (IQS), Customer Satisfaction Index (CSI)
  and Sale Satisfaction Index (SSI)
- H Customer complaint handling unit



### **Communities / Society**

Toyota is responsible for the environment of communities by organizing activities to support education, quality of life, environment and technology including scholarship donation, White Road to promote road safety, Source of Water Source of Life to promote environmental conservation.





### **Customers**

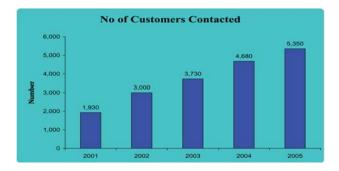
As customer satisfaction is one of the principles of Toyota Motor Thailand, the Customer Relations Center was established in 1987 and has been continuously developed. In 2005, Toyota Motor Thailand realized that customers' requirement and expectation became higher. In order to serve customer satisfaction, the customer service department of Toyota Motor Thailand was upgraded to be the Customer Satisfaction Promotion Office acting as a communication and coordination center between the company and its customers. The services provided by the office include:

### 1. Toyota Call Center

With 14 staff members providing 9-hour service from 8:00-17:00 everyday, Toyota Call Center can support customers' requirement efficiently. In 2006, the service hour will be extended to 24-hour a day by cooperating with the Outsource Call Center.







### 2. e-CRB: Customer Relationship Building

Vehicle and edutainment information can be accessed through the website e-TOYOTACLUB (http://e-toyotaclub.com/th/). Members and customers will get the information on vehicle registration, insurance, mileage maintenance, parts repair, maintenance warning, and news through SMS. Moreover, i-CROP system, the vehicle maintenance information, helps dealers on making appointments with customers faster.

### 3. Customer Satisfaction Survey

Customer satisfaction survey on sales and services were conducted through questionnaires, which were responded by new customers (sales) and customers who had their vehicles repaired (services). The completed questionnaires were sent to the survey company for evaluation and shown as Customer Satisfaction Index (CSI). The results were reported to the dealers and related internal departments of Toyota Motor Thailand twice a month via SMS, email, and report documents.

The result of sales and services submitted to the dealers and related internal departments are used for quality and product improvement and upgrade operation standard in accordance with customers' requirements and expectations.

In addition, Toyota Motor Thailand is a main coordinator of J.D. Power Asia Pacific, a well-known U.S.-based market research and survey firm, which has started automobile marketing survey in Thailand since 2001. The Sales Satisfaction Index Study (SSI), Customer Satisfaction Index Study (CSI), and Initial Quality Study (IQS) of every automobile manufacturer in Thailand were conducted and the results would be announced and published in popular publications of Thailand. Moreover, the result would be analyzed thoroughly and used as a guideline to improve customer satisfaction and continue their product and service patronage.



#### 4. Customer Complaint Handling

When Toyota Motor Thailand's customers feel unsatisfied or have problems with dealers or from using Toyota Motor Thailand's products, Toyota Motor Thailand eagerly deal with problems for highest customer satisfaction. Toyota Motor Thailand cooperates with the Complaint Handling Team and Support Team from related departments for systematical problem solving. The executives, dealers, and related department representatives will be informed in order to find suitable prevention for problem reoccurring.

Additionally, the CR-Web Dealer system is provided as a communication channel connecting customers and dealers for fast problem solving.

### 5. Early Detection & Early Resolution: EDER

To handle customer complaint, EDER was established by Toyota Motor Thailand. EDER is the serious-problem prevention system which tracks daily problem registration. The instant problem solving would decrease the severity of the problems.

Besides the passive complaint handling system by dealers, Complaint Handling Team, and Support Team, Toyota Motor Thailand also provide proactive actions for customers. For example, on the car delivery day, the sale representatives explain how air bag and ABS work and the instruction manuals are given to the customers.

Customers deliver their cars to the service centre.

Dir. Consult technical unit of Dealer

Dir. Consult technical unit of Dealer

EDER tendency problems

Dealer fix problems

Support Team acts as again or contact TMT

Support Team acts as and coordinating and coordinating and coordinating and coordinate relevant units to see

## 6. Management and Service Standard of Toyota Dealers

In order to provide the same level of service standard from over 300 service centers throughout Thailand, management and service operation standard for dealers has been developed. It includes Dealer Evaluation Program (DEP), Dealer Sales Evaluation

(DSE), Toyota Excellent Customer Relations (TECR), and Toyota Excellent Dealer After Sales Service (TEDAS). The evaluation from specific organizations providing consultative advice will be provided.









### 7. Training Program and Selling and Service Skill Competition for Staffs and Dealers

At Toyota, human resource development is important. Education and training department of Toyota is a center for training programs for different groups of staffs such as sale representatives and technicians.

Moreover, human resource development is further promoted through the Sales and Service Skill Competition which is held annually. The objective of the competition is to seek for the representatives from different groups of Toyota Motor Thailand staff member to compete with Toyota representatives from all over the world.

In the automobile business, Toyota Motor Thailand intentionally dedicates the highest standard to our customers.





Customer Relations Training

Selling Skills and Customer Service Contest



## **After Sales**

Toyota Motor Thailand realizes the important of environmental protection and always be aware of the effects from business operations of our service centers to the environment. Hence, we have been paying a great effort to foster and encourage all dealers across the country to concern more and avoid polluting the surrounding. "Dealer ISO 14001 Implementation Program" has been conducted since year 2004 as a tool to show our concern and responsibility to the society. During phase I (2004), 73 service workshops, which had participated in the program voluntarily, had been certified and achieved in acquiring ISO14001 certification. In year 2005, ISO14001 phase II had been implemented again to increase the number of ISO14001 certified service workshops. No. of ISO14001 certified service workshops have increased from 73 to 159 (86 service workshops increased). Currently year 2006, Toyota Motor Thailand has been conducting ISO14001 phase III which 42 service workshops have been participating and all of them are expected to be certified by the end of year 2006. By the end of year 2006, number of ISO 14001 certified service workshops will be 201 workshops.



2006	No of Certified	% Total
Dealer	111/115	96.52%
Workshop	201/257	78.21%



Continuous improvement has been made not only on environmental issue but also on efficiency and quality of standard operations of our service workshops. We have planned to integrate the standard operations Toyota Excellent Dealer After Sales Service (TEDAS) with ISO9001 and ISO14001 so as

to upgrade overall operations in after sales function. This project is internally called "TEDAS Super Standards" which is planed to implement with all service centres nationwide within year 2007.



Whereas concerning on environment and efficiency has been made continuously, we also pay attention to our Toyota family on safety issue. Since safety is always on our mind and we do believe that safety is the very first door to all works and leads to create more productivity, reduction in costs, as well as the peace of mind of our Toyota family members. In the past, fatal accidents occurred frequently in our Toyota family and caused serious injuries to the staffs which affected the production line to shutdown. Thus, in year 2005, CCCF activity, which stands for "Completely Check Completely Find out" and is based on the concepts of "Safety is Top priority" and "All accidents could be prevented", has been implemented successfully with most Toyota family in manufacturing line such as suppliers, construction contractors, and our affiliates. Current year 2006, we have planed to further CCCF activity to Toyota dealership. Thus, we have developed "CCCF Marketing version" with concerned departments to make it suitable with business operations of our service centres. The scope of CCCF activity for dealership covers many safety aspects in all functions such as sales, services, parts, body and paint, as well as administration office so as to guarantee "Zero Accident" and safety work for our family.



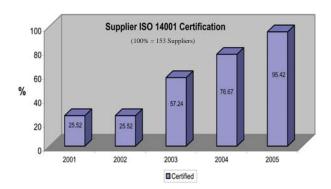
However, the most significant thing in our perspective is to focus on customer satisfaction. To us, customers always come first and our mission is to fulfill their endless expectations. To cope with this matter, we keep moving forward to innovate many activities to respond to their needs beyond their anticipations. "Rush Hour Reception" is one of our activities to make sure that our customers who arrive during rush hour period will be served promptly with faster service operation amd appropriate manner like being served in a 5-star hotel. Moreover, we have another activity to maximize customer satisfaction which is "Car Wash" activity aiming to enhance efficiency and reduce lead time in delivery car procedure so that customers can receive their vehicles back in a short period of time. Both activities aim to provide our customers with the best service experience from our service centres.

# **Suppliers**

Currently Toyota Motor Thailand has 153 part suppliers. Toyota Motor Thailand foresees the importance of having strong supplier network to be globally competitive in terms of quality, cost, delivery, engineering and management.

For organization development, Toyota Motor Thailand promotes the internal and external development, especially the development of part suppliers who play a crucial role in the quality of product. In order to obtain high quality parts, Toyota Motor Thailand has to not only select qualified suppliers, but also enhance those suppliers to have better quality of parts and their services. This will ensure the market acceptance domestically and internationally. Toyota Motor Thailand's policy, therefore, has included the improvement of product quality through suppliers by following the concept of win-win solution since the establishment of the company.

In order to strengthen suppliers, Toyota Motor Thailand has developed supplier evaluation and other techniques to facilitate effective communications, learning and transfer of technology for the same-paced growth. These activities include:



# **Environmental Management System: ISO 14001 Certification for Suppliers**

	2001	2002	2003	2004	2005
Certified	37	37	83	115	146

- 1. Supplier Annual Meeting to report in previous year performance and announce this year target and policy.
- Mid-year Supplier Meeting to review the first half year performance and remind about the second half year policy.
- 3. Monthly Supplier Meeting to closely communicate between suppliers.
- 4. Toyota Production System: TPS
- 5. Supplier audit and brainstorming sessions for problem solving
- 6. Communication and IT improvement.
- 7. Toyota Cooperation Club to support social and leisure activities
- 8. Enhancement of supplier quality.
- 9. Safety promotion
- 10. ISO 14001 certification promotion.
- 11. Phasing out of restricted chemicals.
- 12. Reuse of part protective materials

These activities were parts of strengthening of supplier strategy to enhance the performance of each supplier. The result of some activities, especially ISO 14001 certification, are shown in the graph.



#### Localization of materials and parts

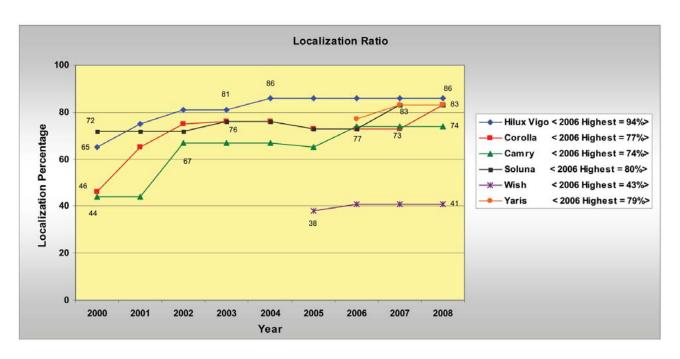
Toyota Motor Thailand maximize the utilization of local parts and materials for auto assembly to promote Thai auto industry. Toyota Motor Thailand also supports local research and development, design, production and employment to fairly distribute income and lower production costs.

Until now, Toyota Motor Thailand has succeeded in increasing localization of materials and parts each year. Local contents used in Hilux VIGO were increased from 80% to 90%. Toyota Motor Thailand attempts to achieve the complete localization of materials and parts in the future.









# **Employee Satisfaction Index**

#### 1. Employee Satisfaction Survey

At Toyota Motor Thailand, employee satisfaction survey is conducted annually. The 10,606 of samples from the previous survey, approximately 89%, includes staff and subcontractors from Toyota Motor Thailand Co., Ltd., Thai Auto Works Co., Ltd., and subsidiaries. An external consultant conducted the survey by using 6 levels of Likert Scale questionnaire. The questionnaire covers 3 main areas including 1. general information of respondents, 2. closed-ended questions, and 3. open-ended questions.

The figure below showed that satisfaction index from the survey in 2005 was in the best employer zone and higher than the average index of other global high performing companies. The employee satisfaction index of Toyota Motor Thailand in 2004 and 2005 were 62% and 71%, respectively. TMT derived management policy based on the result of the survey by incorporating people issue in every level of the action plan including sub-division, department, and section in order to fulfill employees' needs. In addition, executive vice presidents of Toyota Motor Thailand would brainstorm to set the direction and development of the organization.

#### 2. Satisfaction or dissatisfaction Indicator

Toyota Motor Thailand management formally acknowledges the satisfaction and dissatisfaction survey result from HR indicators developed by the human resource department. HR indicators allow Toyota Motor Thailand to understand the situation relating to employees' opinions periodically, such as,

overtime hours, late arrival, and absent hours. The informal channels to receive employees' satisfaction and dissatisfaction include the following:

Suggestion Boxes which are placed at the card punchers and the club.

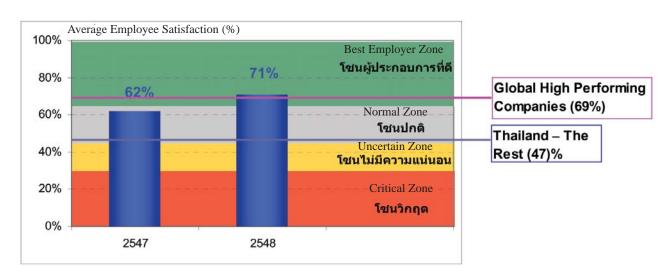
Workplace visit is the activity which Toyota Motor Thailand representatives and labor union committee give employees a visit every month to hear problems and suggestions from the employees.

Welfare Committee was set up to brainstorm the ideas for problem solving and improving employee benefits such as provision of chartered buses.

#### 3. Employee Happiness Trend

Toyota Motor Thailand has placed a great importance on the value and happiness of employees, physically and mentally. Toyota Motor Thailand provides welfares for its employees such as medical benefit for employees and their families, scholarships, and discounted prices for automobile and automobile parts. Moreover, the total budget of 55 million baht was allocated for building the sports complex with the area of 7,600 m² for various indoor and outdoor activities. Additional 20 million baht was approved this year for gymnasium construction.

Employee Satisfaction						
	Engage Score (%)					
Actual			Target			
2003	2004	2005	2006	2007	2008	
69%	62%	71%	74%	77%	80%	



## **Employment**

# 1. Executive number ratio and promotion of Thais to become executives

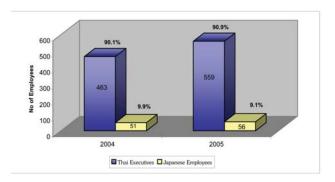
Over 43 years, Toyota Motor Thailand has continuously developed Thai executives. There are 559 Thais working as assistant managers or in higher positions while oversea management staff (Japanese) work in Thailand as coordinators and advisors. Number of Thai executives and oversea coordinators and advisors are shown in the graph.

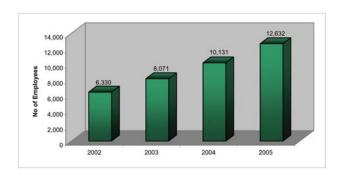
# 2. Employment resulted from business expansion and an increase in investment

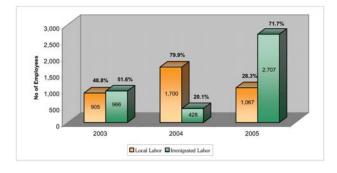
Since 2003, Toyota Motor Thailand has increased manufacturing capacity in order to meet the domestic and international demands. The success of IMV Project has resulted in an increase in employment rate according to business expansion and investment from Toyota Motor Thailand, subsidiaries, suppliers, and dealers by holding on to the fair employment principle to ensure highest transparency and fairness.

#### 3. Local Employment

As the new plant in Ban Pho, Chachoengsao, will be in operation by 2006; therefore, over 1,000 persons will be employed and some of employees from the existing factories will be relocated to the new one. However, Toyota Motor Thailand is well aware of the importance of recruiting local residents to involve communities, create income distribution, reduce unemployment rate and prevent migration of workforce. Toyota Motor Thailand, therefore, has recruited both recent graduates and experienced local workers to start working since April 2006.







# **Learning Organization**

Toyota Motor Thailand has identified 12 core competencies since 2003 and applied competency-based HRM integration system. Training Roadmap and Working Life Plan are the tools used in the training and education for each employee position. They also provide opportunities for employees to freely learn about many things through formal and informal channels such as e-learning to increase self learning, QCC activity, Problem Solving Presentation, etc. Moreover, Toyota Motor Thailand has applied IT for communications, public relations and creating and maintaining database which can be linked through the

internet and intranet for internal use such as Toyota and Toyota Academy websites, e-Toyota Club, T-Web, Lotus Notes, etc. Motor Thailand has given high priority to human resource development by establishing Toyota Academy Thailand to become the center of Toyota's HRM and founded the Asia Pacific Global Production Training Center to become basic skill training center for line operators. All this was dedicated to the opportunity for employees to creatively improve themselves and improve work quality with higher efficiency.







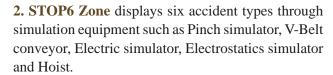


## Asia Pacific Global Production (Training) Center (AP-GPC)

Asia Pacific Global Production (Training) Center (AP-GPC) was established as the Regional Branch of GPC Japan with the same concept and standard as GPC Japan. The main objectives are, to provide newcomers with Fundamental Skill Training and to develop technical skill for production members in Toyota Motor Thailand and other countries in the Asia Pacific region. AP-GPC is divided into 4 zones:



- 1. Safety Dojo was established on May 3, 2006 with the mission of enhancing safety awareness to Toyota Motor Thailand Production staff in order to meet the target "Zero Accident" of our Company Policy. We utilize "Simulation Equipment" as an effective training method to enhance awareness and better understanding about safety. Now AP-GPC designed 4 courses for safety training:
- 1. Subsconsciousness Safety in the office for newcomers
- 2. Subsconsciousness safety for the operators
- 3. Subsconsciousness safety for supervisors
- 4. Basic education of equipment troubleshooting





**3. Production Zone** is divided into 5 Shops including Press Shop, Welding Shop, Assembly Shop, Logistic Shop and Maintenance Shop. Each shop demonstrates the key points of safety work operation by showing both right and wrong operation.



**4. Ergonomics Zone** provides exhibitions and explanations on how to avoid the occupational illnesses.

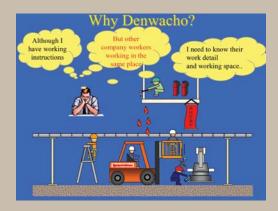


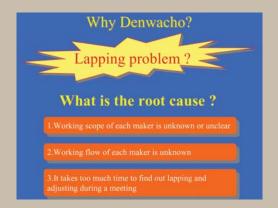


## **Job Safety Promotion**

#### **Safety Statement (Denwa Cho)**

With the objective of creating safety in the work environment, especially during the installation of machinery or equipment, Toyota Motor Thailand Co., Ltd. has implemented the technique called "Denwa Cho" or Safety Statement to complete a job on time without accidents by planning before acting.





#### **Completely Check Completely Find out Activity (CCCF)**

To promote safety awareness among all levels of employees, Toyota Motor Thailand has implemented Completely Check Completely Find out (CCCF) activity which allows employees to give opinions, check and find out dangers and evaluate job hazard from their own jobs and workplaces.





#### **Basic Priciples of Car Driving and Motor Cycle Riding Safety**

To educate employees on safety driving and encourage employees who ride motor cycles to be more aware of safety, the safety and environment promotion office provided a training course on "Basic Principles of Car Driving and Motorcycle Riding Safety" to general employees.





## **Stop Global Warming Project**

Stop Global Warming Project was launched by Toyota Motors Thailand Co., Ltd. in cooperation with Thailand Environment Institute, National Municipal League of Thailand and other governmental agencies. The pilot project was carried out from May 2005 – April 2006 with the objectives of educating youths and general public on global warming and climate change. The project was aimed to prevent and mitigate global warming which is a direct result of generating energy such as electricity, fuels for transportation from fossil fuels. The global warming effect was caused by an increase of carbon dioxide trapped in the atmosphere which results in an increase in the average temperature of the earth's atmosphere.

For the first year project, 25 municipalities across the nation were selected and submitted 42 main project proposals and 83 supporting proposals. These project proposals are divided into 4 main categories:

- 1. Reduction of heat effect in urban areas by sustainable commutation such as construction of bicycle lane.
- 2. Increase in green area such as growing more trees on the islands of roads.
- 3. Energy saving such as energy conscious family day.
- 4. Reduction of urban waste such as development of paper recycling machine.

These projects were successful and received coordination from all stakeholders.

For the second year project, Toyota Motor Thailand and Thailand Environment Institute continued to support the Stop Global Warming Project by expanding to all regions and emphasizing participation of the public and students for sustainable development.











# Mangrove Reforestation

On February 19, 2006, Toyota Motor Thailand Co., Ltd. started a mangrove reforestation project to honor His Majesty the King's 60th anniversary of accession to the throne. This project was continued from the Toyota Reforestation and Returning Crab to the Sea Project launched in 2004 and was in cooperation with the Army Quartermaster Department and the World Wildlife Fund for Nature (WWF). About 600 of Toyota executives and employees participated in planting 12,000 mangrove trees to increase habitats for nurturing young aquatic lives, covering 2.9 hectares. In addition, Toyota supported a permanent exhibition on mangrove forest and built a nature-observing boardwalk for youth and general public to learn about mangrove ecosystem closely. Landscape was also beautified to accommodate students coming for nature study and camping with the Queen Sirikit's 72<sup>nd</sup> year Army Nature Observation Center (Bang Poo).



Queen Sirikit's 72<sup>nd</sup> year Army Nature Observation Center (Bang Poo) or Nature Study Center Bang Poo is a collaboration between the Royal Thai Army and WWF Thailand which operates nature conservation and environmental protection activities. The center was intended to upgrade Bang Poo recreation resort to become a nature study center for youth, students by using an integrated approach with the formal education curriculum.

Toyota Motor Thailand wishes to see the mangrove reforestation project become part of the environmental awareness promotion program which educate both youth and general public and be a model for environmental and ecosystem protection and conservation.



#### **Dabos Project**

The Dabos project was initiated by His Majesty King Bhumibol Adulyadej and established in 1975 with the objectives of supporting the underprivileged that lack of education, capital assets and basic knowledge to enter formal schools. If they have determination and are eager to study seriously, they will be provided with opportunities to receive non-formal educations or trainings on occupational skills and moral issues. With this project, graduates will be able to work and help themselves, their families and society.

In 1976, His Majesty the King conveyed royal idea to open Radio Electronics technician course and conferred private budget as endowment for the project. Later on, His Majesty gave royal permission to legally register The Dabos Foundation on the 17<sup>th</sup> of August 1990.







#### **Management Principles**

- Operate as informal education
- Noncommercial, truly charitable
- No cost, but students have to serve their teachers in return.

#### **Objectives and Goals**

Graduates from the Dabos Project will be able to have decent careers in industries or continue for higher education.

#### **Service Unit**

- The Dabos School
- The Children of Dabos Project, Samut Prakarn Province
- The office of Dabos Foundation

In 2006, Toyota Motor Thailand encouraged the Dabos project to implement ISO 14001:2004 from May to December 2006. The activities include setting up working group, preliminary audit, trainings and implementation. It is expected to be certified by the end of December 2006. Toyota Motor Thailand has supported trainings, modifications and improvements of processes, areas and equipment to comply with ISO 14001: 2004 requirements. This is done to support the sustainability of the Dabos project.

# **Toyota Thailand Foundation (TTF)**

Toyota Thailand Foundation (TTF) was established in October 1992 which was the occasion when Toyota Motor Thailand Co., Ltd. had been in business in Thailand for 30 years. The foundation operated with the interest funds generated from the initial registered capital of 30 million baht donated by Toyota Motor Thailand Co., Ltd. In 2002, the 40th anniversary of Toyota Motor Thailand Co., Ltd., the company raised the fund to 400 million baht. The activity objectives are as follows:

- To promote and support all education levels
- To promote quality of life and environment in Thailand
- To cooperate with other charity organizations for social benefits, being a charity organization

For the last 13 years, TTF has created a large number of projects contributing to the improvement of quality of life and the environmental protection in Thailand. These initiatives include Toyota Thailand Foundation Award-TTF Award, Beginning of Stream, Beginning of Lives, Used Books Project Library for Primary School Project, "I Love Green Vegetable," a lunch project to develop a sustainable lunch in schools and to solve problems in the lack of nutrient which is important to children under studying, etc.







#### **Endowment and Total Revenue & Spending**

(million baht)

	2002	2003	2004	2005	2006	Total Since 1992
Endowment by Toyota Motor Thailand	100	50				400
Spending by Objective						
* Education Support	5.11	10.30	9.40	15.75	20.00	156
* Development of Living Quality to Underprevileged Children and Environmental Conservation	2.80	4.00	6.00	6.25	5.50	43
* Cooperate with NGOs and Govt. Organizations for Social Benefits	2.00	2.60	1.00	5.50	6.00	43
Total Spending	9.91	16.90	16.40	27.50	31.50	241*

<sup>\*</sup> Total Spending (241 million Baht) spent from interest income of Capital (Toyota Motor Thailand's Total Endowment :400 million Baht) and special donation from Toyota Motor Thailand 25 million Baht

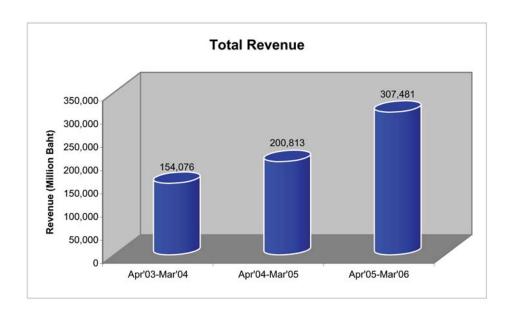


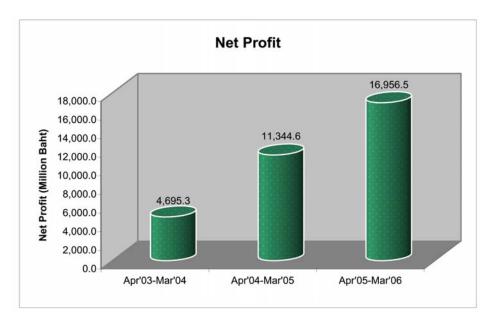
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# **Economic Aspects**

Due to the fact that Toyota Motor Thailand is a production base for pickup trucks, SUVs and parts for IMV project, the significant sale growth for both domestic and export market since 2005 can be observed. More than 400,000 units were sold in 2006 or 150,000 units more than previous year which is higher than 50% growth. The revenue in 2006 was more than 300,000 million baht, 50% more than the revenue in the year before. The net profit was about 16,000 million baht or 49.5% increase. In addition, in 2005, Toyota Motor Thailand was the leader in the market for all types of vehicles, passenger cars and commercial trucks which was the first time in the last 23 years.







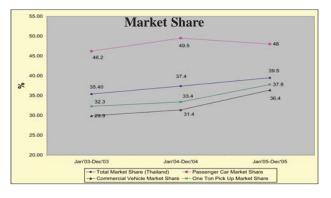
Toyota Sales Volume in 2005					
Total sales of Toyota (Domestic)	No. 1 Toyota 277,955 units,	18.7% increase, 39.5 % Market share			
Saloon	No. 1 Toyota 90,298 units,	12.7% reduction, 48% Market share			
Commercial	No. 1 Toyota 187,657 units	43.5% increase, 36.4% Market share			
One-ton pickup trucks**	No. 1 Toyota 177,627 units	44.2% increase, 37.8% Market share			
Lexus	307 units				

\*\* includes modified pickup trucks

Results of export market showed that Toyota ranked No. 1 in exporting vehicles with the total number of 151,000 units which can translate into 70,000 million baht. Moreover, Toyota exported parts for about 46,000 million baht.

For 2006, Toyota Motor Thailand sets the domestic target of 295,000 units with 6% growth and expects to have more than 40% market share in export market. Export target is 230,000 units which is 51% increase from previous year and 49% market share, equivalent to 99,000 million baht. For export of parts, the total sales are expected to be 53,000 million baht or 15% increase. The total revenues for export will be 152,300 million baht ranking No. 1 among Thai automobile exporters. Toyota Motor Thailand has increased production capacity to meet domestic and international demands. The expected capacity from Samrong and Gateway Plants is 510,000 units/year or 23% increase. Therefore, 2006 will be another record-breaking year for automotive industry. Toyota Motor Thailand will make efforts to maintain our leadership in all markets and to deliver customers with highest satisfaction.







# **Special Story**

Executive Statement
Ban Pho Plant - The Eco Plant
The Style by TOYOTA

On the auspicious occasion that Ban Pho Plant will be in operation after January 2007 with a lot of expectations from executives to have this plant as a leading eco-friendly plant in ASEAN, "Joyful & Community Friendly" is therefore our motto that all employees at Ban Pho Plant will always keep in mind. This motto means that surroundings and environment of employees and communities must be in harmony and employees work willfully and seriously. Production processes were designed to have minimum environmental impacts on communities by introducing new technology such as water-based paint to replace thinner-based paint, installation of co-generator, the first of its kind among Toyota subsidiaries in ASEAN, that can reduce CO<sub>2</sub> emission, which contributes to global warming, of up to 6,000 tons/year.

To maintain our friendliness with communities and environment, we will never stop improving and developing our environmental management to be deserved for the name of "Eco-Factory."



Charnchai Suppayakorn Vice President

## **Ban Pho Plant - The Eco Plant**



Established in 2005 at Ban Pho, Chachoengsao, Ban Pho Plant is considered to be the most modern plant in the region. The new plant was built because of the expansion of Toyota Motors Thailand Co., Ltd. With modern production process, environmental friendly operation, and qualified safety standard, the plant which will be operated at the beginning of 2007 has been under preparation by Toyota Motor Thailand. The preparation includes cost management and training programs in order to develop production skills and new technology of new employees. Consequently, the production process achieves the highest standard and the company will be the leader of the automobile industry in Thailand. Furthermore, the plant will be the first ecological factory in Thailand.

# The objectives of the new plant construction at Ban Pho

- 1. To increase the production capacity of the pickup truck for the IMV project which has been very successful after the project inauguration in August, 2004. The plant will become the global export base.
- 2. To enhance employee performance in the modern technology and efficient environmental management.
- 3. To support the government policy to reinforce the economic stability by increasing local employment. Additionally, the new plant establishment was intended to make Thailand the base of automobile production and export as the Detroit of Asia.
- 4. To be a part of economic, social, and quality of life development of Thailand.

5. To transfer technology to Thailand for human resources development in skills and thinking. The new plant is the model of the environmental technology application for sustainable development. The applications of the environmental technology are as follows:

#### **Energy**

**Co-generator,** which will be installed for electricity generation from natural gas, will lower CO<sub>2</sub> released to the atmosphere. Clean energy such as solar energy will be utilized in the plant.





The quality of the treated effluent must pass the internal standard of Toyota Motor Thailand, which is 20% more strict than the regulations. Treated sewage will be recycled in the plant. In addition, water quality will be continuously controlled by online COD monitoring system which is real time detection. The detected data will be sent to the Department of



Industrial Works. Water quality analysis laboratory was also registered with the authority.

#### **Air Pollution Management**

Advanced technology will be firstly applied at our new plant. Water-based paint which has higher quality than thinners-based paint will be used as an environmentally friendly spray painting. Robot will also be used to spray paint to achieve the most efficiency. RTO incinerator will be installed in order to lower hydrocarbon released into the atmosphere.





#### **Waste Management**

Toyota Motor Thailand has continuously minimized waste and started a zero landfill project. In the newplant, the zero landfill policy will be implemented from the beginning of the operation and more than 80% of the waste will be recycled.

The Ban Pho plant, which is an ecological factory, is the pride of Toyota Motor Thailand. The plant will be the model for other industries who are also concerned about environmental problems to help reduce the global environmental impacts.





In 2006, **Toyota Motor Thailand** opened "**The Style by Toyota**" to promote and create knowledge-based society for the new generation of people who are creative, confident and eager to learn about new technologies. **The Style by Toyota**, which became a new venue for learning and entertaining or so-called "Edutainment" offers a wide range of information covering technology, entertainment, fashion, sports and arts and provide youth with opportunities to show their talents and express their creative ideas.

The main concept in designing **The Style by Toyota** is the construction of building to be unique as a High-Tech Edutainment Center to promote joyfulness and creativity. **The Style by Toyota** is located right in the center of Thai teenage hub "Siam Square" with the area of 1,000 m<sup>2</sup>; divided into 3 floors.



Third floor: Event / Workshop

This floor is a venue for expressing talents and creativity and learning from hands-on experience to develop multiple skills.



**Second floor:** DJ Booth / Design Lounge This floor links imagination with creativity



**Ground floor:** The Style Cafe / Registration / Center Display / IT terminal / Digital content / Product message / Ubiq window / Giant Plasma / LED This floor is a meeting place for young generation and full of advanced technology, sources of information.



# **Questionnaire**Sustainability Report 2006

Your Cooperation in completing this questionnaire is very much appreciated Toyota Motor Thailand Co., Ltd., Safety and Environmental Promotion Office

1. What is your overall opinion of	f this year's report?
<ol> <li>Quantity of Information:</li> <li>Quality of Information:</li> <li>Clarify:</li> </ol>	O Excellent O Good O Moderate O Low O Need Improvement O Impressive O Satisfied O Passable O Slightly Satisfied O Dissatisfied O Very easy to understand O Fairly easy to understand O Average O Not much Understand O Very difficult to understand
4) Number of Pages:	O Too Many O Somewhat too many O Appropriate O Rather than not enough O Not enough
2. What in the report were you in	terested in, and what areas would you like to see improved in future issue?
1) Cover Page: 2) Top Executive Message: 3) Corporate Philosophy: 4) Company Overview: 5) Environmental Performance: 6) Social Performance: 7) Economic Performance: 8) Special Story: 9) Questionnaire: 10) Back Cover Page:	<ul> <li>O Interested in O Hope to see improvement (Please Specify</li></ul>
·	inability report 2006? (Please select one only) upplier • O Web Site • O Other (Please Specify)
Which type of media do you think	k suitable as a media for future sustainability reports? (Multiple answers allowed)
O Paper O Internet	O CD-Rom O Other (Please Specify)
If you have any other comments y	ou wish to make, Please add here.
Thank y	you for your cooperation. Please provide details of yours.
Name	Age
Address	
Occupation / Company's Name	

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