

**Survey on Green Purchasing Activities in Asian Countries
Republic of China**

March 2003

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Table of Content

| | |
|--|----|
| Preface..... | 3 |
| 1. Government Green Procurement Law | |
| 1.1 Background..... | 4 |
| 1.2 Requirements of the Law..... | 4 |
| 1.3 Monitoring Targets..... | 5 |
| 2. Green Consumerism..... | 7 |
| 3. Green Purchasing in the Private Sector | |
| 3.1 The Incentive and Driving Force..... | 8 |
| 3.2 The Difficulty and Barriers..... | 8 |
| 3.3 Case Introduction..... | 8 |
| 4. Eco-Label Products in ROC | |
| 4.1 Introduction..... | 11 |
| 4.2 Type 1 Eco-Label Products..... | 11 |
| 4.3 Type 2 Eco-Label Products..... | 12 |
| 4.4 Type 3 Eco-Label Products..... | 12 |
| 4.5 Type 4 Eco-Label Products..... | 12 |
| 5. Promoting Organizations | |
| 5.1 Public Construction Commission..... | 13 |
| 5.2 Environmental Protection Administration..... | 13 |
| 5.3 Environment and Development Foundation..... | 13 |
| 5.4 Business Council on Sustainable Development..... | 14 |
| 5.5 National Cheng Kung University..... | 14 |
| 5.6 Ministry of Interior..... | 15 |
| 5.7 Industrial Development Bureau..... | 15 |
| 5.8 Taiwan Environmental Management Association..... | 15 |

Preface

The Asian Productivity Organization (APO) and Japanese Green Purchasing Network (GPN) have commissioned partners in three Asian countries: Republic of Korea, Republic of China (ROC) and Malaysia to conduct the survey of green purchasing activities in Asian countries. The survey started in January 2003 and is expect to be completed by March 2003.

The content of the survey is to include the followings:

- Activities of the public sector (national and local bodies): practice, system, development and barriers;
- Activities of the business sector: practice (purchase of products, parts and materials), system, development, barriers and case study;
- Product information in green purchasing: environmental labels, criteria, guidelines and database; and
- Promoting organizations.

The Taiwan Environmental Management Association (TEMA) has been commissioned by APO GPN to conduct the survey in ROC. With regard to the above terms, the report on the survey in ROC will introduce the government green procurement law which governs the green purchasing in public sector in ROC, report the green consumerism and green purchasing activities of the business sector in ROC, the Green Mark (eco-label) products, and finally the promoting organizations which include government, NGO and academics.

1. Government Green Procurement Law

1.1 Background

The Public Construction Commission and the Environmental Protection Administration (EPA) of ROC have jointly promulgated the Government Procurement Law in May 1999. Details of the law can be found at www.pcc.gov.tw which contains 15 articles (in English). Under the law, the ROC government has set measures for the priority procurement of environmentally preferable products by ROC government agencies. These measures are set as pursuant to Paragraph 3 of Article 96 of the Purchasing Law.

1.2 Requirements of the Law

Under the law, ROC government agencies have the priority of buying three types of environmentally preferable products:

- ROC Type 1: products having awarded the Green Mark (ROC eco-label) or a foreign country's eco-label with reciprocal agreement with Green Mark program, that is the equivalent of eco-label products under ISO 14024 requirements;
- ROC Type 2: product material that can meet the requirements of "regenerated material, recyclable production and energy saving", yet do not fit into the Green Mark category, however, the products or product materials have to be verified and awarded a certificate by a public third party; and
- ROC Type 3: products which reduce social cost and have been certified by one responsible agency such as the different government agencies or a public third party.

(Note: ROC Type 1 is the same as ISO Type 1 eco-label products, i.e. in the government procurement process, government agencies can purchase eco-label products to fulfill the requirement of the Law; example of ROC Type 2 is Energy Star, i.e. government agencies purchasing Energy Star products are complying with the requirement of the Law; under ROC Type 3 "increase social benefit or reduce social cost" means the characteristics of products or materials which, during the design, manufacturing or use stage, allow the reduced reliance on non-renewable resources, reduced resource consumption, use of new resource or other similar characteristics.)

Government agencies conducting procurement of environmentally preferable product with the above criteria can apply price preference. However, the price preference should not be higher than 10 percent. Under this condition, if the supplier of non-environmentally preferable product has the lowest price while the environmentally preferable product is although higher in price, but within the price preference percentage, the supplier of environmentally preferable product may be awarded the contract. The existing practice is that the supplier of an environmentally preferable product is given a chance to reduce the price if the quoted price is higher, but within 10% of the lowest price of the non-environmentally preferable product, and if agreed, the contract will be awarded to the supplier of the environmentally preferable product.

Article 16 of this law encourages the government agencies or persons who have significant contributions in the implementation of procurement of environmentally preferable products may receive an award from EPA. However, there is no penalty under the law for government agencies that cannot meet the target.

1.3 Monitoring Targets

The law was enacted in 1999 and year 2000 was a year of promotion and awareness. More than 100 training had been conducted in different national, provincial, state and prefecture government agencies. Starting year 2001, all government agencies were required to achieve 30% (in monetary terms) product procurement on environmentally preferable products, but not including service and engineering contracts. In the year 2002, all government agencies were required to achieve 50% product procurement on environmentally preferable products.

The monitoring of government green procurement has just started and the first year (2001) reporting records could be used as practice and not assessment as many data were missing and incorrect. The second year (2002) reporting record is now under compilation and results showed many extremes. Government agencies such as EPA and Taipei City government can achieve 90% green procurement and many agencies only achieve less than 10%. It is expected that reporting in 2003 will be more complete and can

provide more details on how government agencies are progressing on green procurement. Based on the more accurate reported results, an award according to Article 16 of the Law may be granted.

ROC government does not require centralized government procurement system, but encourage government agencies to use the Central Trust which is implementing large amount of central procurement such as computers, office supplies, etc for all government agencies. Now EPA is promoting the Central Trust to practice as much as possible on green procurement so as to achieve more on the government green procurement target with less effort.

EPA, the implementing agency, not only provides the training and promotion to relevant government agencies, but also being the coordination agency to central, city and local governments. In 2002, EPA was providing training to government hospitals, schools and enterprises. With further training on green procurement and reporting, it is expected that government green procurement will improve with time and even expanded to cover service and engineering contracts.

EPA has developed the “Green of Office Program” (for both government and private) in 1999 and awards were given each year to outstanding implementation organizations. This program assists and accelerates the government green procurement, especially in office supplies. Also, the Ministry of Interior is promoting “Green Building” by seven criteria (such as energy saving, use less water, etc.) and this encourages the procurement of material and facilities contributing to the green building.

2. Green Consumerism

Green consumerism in ROC is not strong because of the economy and culture. People still like to buy cheap products on the street and welcome imitation products. The Consumer Council is a weak NGO in ROC and is lacking funding support to promote green consumerism. Education on environmental protection, recycling, energy and water saving has begun in ROC for sometime, but education on resource optimization and use of environmentally preferable or environmental friendly products is at the beginning.

Government green procurement has to take the lead, followed by private enterprises and finally the consumers. There is still no “environmental or sustainable fund” in the ROC stock market to facilitate the investment of environmental products or invest on environmental friendly corporations. Women in society on environmental awareness and activities are not as strong as in Japan or Korea and only a few private corporations have just started to embark on social responsibility.

3. Green Purchasing in the Private Sector

3.1 The Incentive and Driving Force

ROC started environmental protection in 1980 with end-of-pipe treatment, progressing to waste minimization in 1989, cleaner production in 1994, environmental management system in 1996 and now upgrading to green design and green procurement starting 2001. Although eco-labeling program started in 1993, government green procurement only started in 1999. Therefore, green purchasing is still a relatively new idea or practice in the private sectors of ROC.

The incentive and driving force in the private sector of ROC is still limited to the environmental benefits of the enterprise. Through greening of supply chain and green procurement, the enterprises can save material, save energy, save water, use less toxic and hazardous materials, generate less wastewater and waste, reduce packing materials, save on transportation cost and increase their public image. However, the benefit directly from consumers is limited.

3.2 The Difficulty and Barriers

The difficulty and barriers in green purchasing in the private sector of ROC come from different background and development including:

- Cultural and economic development, e.g. buying cheap products or imitation products on the street;
- Green procurement is only at the beginning in ROC, it takes time to build up awareness and allow promotion to get to all people and organizations;
- There is little pressure coming from buyers and export requirements, Japan and EU requirements still have 2-3 years to become mature;
- Support from top management in enterprises, government and consumers is weak and hopefully will build up with time in the next few years.

3.3 Case Introduction

(a) Ford Lio Ho Motor Co. Ltd. (Automobile Industry)

Ford Lio Ho (FLH) is the US Ford Motor Co. Ltd. investment in ROC with

manufacturing plant producing automobiles supplying ROC and some of the Asian markets. As FLH is also a big and leading enterprise in ROC, it has been practicing green design and greening of supply chain since a couple of years ago.

Ford has a global product development system under which there is a material management system which integrates green design and green procurement. So far, FLH has been promoting the following four areas in the greening of supply chain and green procurement:

- Requesting suppliers on plastic parts to mark all plastic materials to facilitate recycling and procurement department has implemented this through the bidding and delivery process;
- Implementing restricted substances management system (RSMS) to control toxic and hazardous materials such as heavy metals and listing the requirements in the procurement contracts;
- Training the suppliers on PU recycling to encourage the suppliers to recycle the PU from end-of-life vehicles and reuse the recycled PU in the new supplies; and
- Requesting first tier suppliers to obtain ISO 14001 certification and 85 suppliers have completed this already.

(b) Epson Industrial (Taiwan) Corporation (Electronic Industry)

Epson Industrial Taiwan (EIT) is the Seiko-Epson investment in Taiwan producing small and medium sized liquid crystal display (LCDs) for cellular phones, pagers, calculators, watches, etc for markets in Taiwan, Hong Kong, Japan, Singapore, Europe, Korea and USA. Seiko-Epson has a good reputation on green procurement in Japan and is also requesting all its global companies to follow. Under the influence of Seiko-Epson, EIT started to practice green procurement in the last two years in the following three areas:

- General supplies: by 2002, about 17% can achieve green procurement which focuses on Green Mark (eco-label) products in ROC, these include 19 types such as toilet tissue, printing paper, paper box, name card paper, toilet bowl, LCD monitor, tape, non-mercury battery, recycle-paper envelop, detergent, water pigment, refrigerator, washing machine, light bulbs, correcting fluid, and humidifier;
- Production supplies: by 2002, EIT can achieve 100% as EIT imports most of its production supplies from Japan and they use the same

suppliers of Seiko-Epson; and

- Equipment: by 2002, EIT can only achieve only achieve 8% as it is rather difficult to practice green procurement in this area due to difficulty in setting procurement criteria and shortage of suppliers.

(c) Homemaker's Union and Foundation (NGO)

Homemaker's Union and Foundation (HUF) is a women organization and NGO which is very active in environmental activities in ROC. They support a lot of environmental protection, ecology preservation, green consumerism, energy and water saving activities and campaigns. HUF supports the eco-label products in ROC by practicing green procurement which includes the purchase of Green Mark toilet paper and all office supplies.

(d) Hitachi Taiwan (Electrical Industry)

Hitachi Taiwan, following the Hitachi Japan's model, has been implementing green procurement system. However, so far, they have not been monitoring the exact amount of green purchasing they have achieved. Inside their green procurement system, they have set up guidelines for green procurement. Hitachi Taiwan also requests suppliers to obtain ISO 14001 certification and so far about 10% has achieved that. In addition, they request chemical suppliers to provide MSDS and by 2006, all their procurement shall not contain any hazardous material.

(e) Others

From the general survey and statistics conducted in ROC in the last two years on electronic and electrical industry, there may be about 10% of the private enterprises or business sector practicing some degree of green procurement. Most of the green procurement is restricted to office supplies. From the less than 30 environmental reports from the business sector in ROC, it can be deduced that only a few large private enterprises in ROC have set up green procurement system (including policy, guidelines, specifications, screening of suppliers based on environmental criteria). Japanese or European or US based large enterprises are starting to look into this and the head office's influence is often the driving force for implementing green procurement system.

4. Eco-Label Products in ROC

4.1 Introduction

In 1992, ROC EPA initiated the Green Mark (eco-label) Program and commissioned the Center for Pollution Control Technologies of the Industrial Technology Research Institute (ITRI) to implement the program. Upon the successful result of implementation, EPA and ITRI decided to form an independent non-government organization: the Environment and Development Foundation (EDF) to handle all eco-label affairs and participate in international activities.

At present, EDF provides certification and training on eco-label and green procurement to all interested parties, mainly producers applying for eco-labels, government and private sectors on green purchasing and purchasing eco-label products. The mission of Green mark Program is to promote the concept of recycling, pollution reduction and resource conservation. The objective of the program is to guide buyers and consumers in purchasing green products and producers to manufacture and provide environmental friendly products.

4.2 ISO Type 1 Eco-Label Products

In 1993, established by EPA and implemented by EDF, the Green Mark Program or the ISO Type 1 eco-label products of the ISO 14024 was started. 1993-1996 was the promotion period and EDF was certified to ISO 9001 in 1997 to start receive applications under Green Mark. During the promotion period, Green Mark Review Committee of was set up, product criteria were developed, product testing and inspection methodology, procedure and laboratory were prepared and arranged.

At present, there are 77 product criteria developed, 1057 products and about 250 licenses (cumulated since 1997) have been granted Green Mark. From 1997-2001, there were about 200 application each year and because of the Government Procurement Law and pressure on government agencies to purchase green products, there were about 600 application in 2002. However, some did not renew the green mark license and that is why the total cumulated products is only 1057. More details of these product criteria, products, license and suppliers can be found on www.edf.org.tw and there is English

data on the web.

The ROC Green Mark Program is under mutual recognition agreement with the US Green Seal and Canada Environmental choice Program, i.e. product of the same product criteria which obtains eco-label in US or Canada can be recognized in ROC and vice versa. ROC government is providing 90% of the funding on product criteria development, promotion and training. Income is generated on eco-label product applications and this part is expect to be self sufficient in future.

4.3 ISO Type 2 Eco-Label Products

ISO Type 2 is self-declared eco-products according to IS 14024 and there are a few of these products in ROC such as the non-ozone depleting products (e.g. products do not contain CFC), water saving, etc. However, EPA funding is provided only on ISO Type 1 eco-label products and there is no statistics and no central file or directory of these products.

4.4 ISO Type 3 Eco-Label Products

At present, there is no ISO Type 3 eco-label product in ROC.

4.5 Other Eco-Label Products

Not an ISO standard eco-label product, other eco-label is a single product or an individual industry such as paper, or a single criterion eco-product and there are a few of these products in ROC such as the energy saving (same as Energy Star in US), water saving, green building, etc. These eco-products are registered under different government agencies. However, EPA funding is provided only on ISO Type 1 eco-label products and there is no statistics and no central file or directory of these products.

5. Promoting Organizations

5.1 Public Construction Commission

The Public Construction Commission (PCC) is a government department under the Executive Yuan of ROC. PCC is in charge of the government procurement, including implementing the Government Purchasing Law and Government Procurement Law. The requirement of green procurement in government agencies is under the Government Procurement Law. The PCC web site www.pcc.org.tw contains the government procurement information which includes local and international procurement items and amount. The cooperation of PCC and EPA on government green procurement is described in Section 1.

5.2 Environmental Protection Administration

ROC EPA was established in 1987 and is a government department under the Executive Yuan of ROC to oversee all the environmental affairs. In addition to drafting all the environmental regulations, EPA also promotes waste minimization, cleaner production, ISO 14000 standards and sustainable development.

In May 1999, PCC drafted the Government Procurement Law requiring all government agencies to practice green purchasing. EPA is responsible for implementation and monitoring and they set the targets of 30% and 50% for 2001 and 2002. EPA designed and trained all the government agencies to fill in the achievements and at present, they are compiling the reports from different government agencies for overall assessment.

Furthermore, EPA is providing the funding support to EDF for establishing the Green Mark Program in ROC. At the same time, EPA is promoting the greening of office which also facilitates green purchasing in government and private organizations, especially on office supplies.

5.3 Environment and Development Foundation

EDF is formerly part of ITRI and was spin-off from ITRI as an NGO in 1997 to implement the eco-product program in ROC with a 5 million New Taiwan dollars fund. At present, EDF provides environmental certification and consulting services to all interested parties, including government, business

and consumers in Taiwan and overseas. The types of services offered by EDF include:

- Certification of green products, i.e. operating of the Green Mark Program and USEPA-initiated Energy Star Program;
- Certification of ISO 14001 EMS;
- Promotion of green consumption and local initiatives such as green of office campaign, recycling and reuse of kitchen residue, community environmental service corps and recycling scheme for military agencies, etc; and
- International contact and liaison

EDF is taking the lead on promoting green purchasing in ROC, but mostly in government agencies and so far does not have sufficient resource to extend to the private sector. Each year, EDF is organizing local and international workshop, seminar and exhibition of eco-label products. EDF is an active and leading member in the Global Eco-labeling Network (GEN).

5.4 Business Council on Sustainable Development

ROC Business Council on Sustainable Development (BCSD) is part of the world BCSD to promote eco-efficiency in enterprises, especially large scale multi-conglomerates. In the last few years, BCSD and EDF have been publishing the Business and the Environment magazine in which they promote green procurement in the private enterprises. Last year, BCSD cooperated with Taiwan Electronic Testing Center (ETC) and Taiwan Environmental Management Association (TEMA) to organize an international conference on green procurement and green design, inviting international experts to come to ROC to speak on greening of supply chain and green purchasing.

5.5 National Chung Kung University

National Chung Kung University (NCKU) is the only academic organization in ROC which is conducting research in the greening of supply chain area. On 15 March 2003, NCKU is organizing a local conference on Sustainable Product and Enterprise Conference in which there will be a special section on Green Procurement and Greening of Supply Chain.

5.6 Ministry of Interior

The Ministry of Interior (MOI) of ROC has been promoting the green building for a few years. MOI established the seven criteria for green buildings and encourage the architects to design green buildings, the suppliers to provide green materials, the researchers to develop relevant equipment, material and recycling systems for green buildings. Through such a process, the green of supply chain and green purchasing in the construction industry of ROC has just begun. Some engineering and construction associations, some contractors and suppliers are cooperating in forming the green supply chain in this area.

5.7 Industrial Development Bureau

The Industrial Development Bureau (IDB) is under the Ministry of Economic Affairs (MOEA) of ROC promoting environmental protection and sustainable development in the manufacturing sector. After 20 years of work, the promotion started with end-of-pipe treatment, to waste minimization, cleaner production, environmental management system (EMS) and now focusing on green design and green purchasing.

IDB has been providing the funding to organizations such as TEMA to promote greening of supply chain and green purchasing in the manufacturing sector. In 2001, the funding support was on collection of information and in 2002, the funding was on international conference, local seminars and publication of promotion brochure. In future, the promotion will include publication of green procurement guidelines for the industry and directory of green product suppliers.

5.8 Taiwan Environmental Management Association

TEMA is an NGO in ROC and involves in the promotion of EMS, green productivity (GP) and relevant tools such as environmental performance indicator (EPI), corporate environmental report (CER), environmental cost accounting (ECA), green design and green procurement to the industry. TEMA is getting funding support from IDB through projects to promote the above activities.

In 2001, TEMA collected information on greening of supply chain and

green procurement from Japan, US and Canada. TEMA is in close cooperation with EDF, BCSD, ITRI, NCKU and ETC in the area of green procurement. In 2002, TEMA organized seminars on green procurement, published promotion brochure and organized international conference. In 2003, TEMA is planning to speak at industrial associations on green purchasing and publish the green procurement guideline. In 2004, TEMA is planning to publish the directory of suppliers of green products and provide technical assistance to industry, helping them to establish green procurement policy, guidelines and specifications.

TEMA is still considering the establishing of Green Procurement Network in ROC following the Japanese model by cooperating with EDF and BCSD. As ROC is in different economic scale from Japan, the forming of GPN will be more difficult. Government support is not sufficient and the driving force and incentives are not explicit.