
Glass recycling business in Ayuthaya, Thailand

Summary of the Practice

Keywords: business, recycle, waste management, glass scrap

Country: Thailand

Province: Ayuthaya Province

Area: Ayuthaya Province

Sectoral Issues: Waste management

Cross-Sectoral Issues: Environmental Information, Environmental Technologies

Implementation Level: National level

Duration: 1983-present.

Sponsors: Bank of Thailand (BOT) (about 0.8 percent of total)

Actors Involved: Central Government

Description of the Practice

Background:

Krung Thai Glass Company Limited was established in 1983 as a collector of scrap glass and glass bottles for recycling. Located on two *rai* of land in Klong Luang District, Patumthani Province, the company collects scrap glass for recycling into new glass bottles and collects used glass bottles for reuse by processing them through certain cleansing processes. The siblings of the Krung Thai family hold the shares of the company and have several branch companies under its operation as follows:

Kaew Sarn Siri Company Limited located in Sam Ngam District, Pichit Province—buys and sells various types of scrap glass and has a marketing target in the northern part of the country;

Tang Yu Huad Hong Kee Corporation located in Ban Sang District, Pranburi Province—collects scrap glass, used glass bottles including scrap metals and paper scrap—its marketing target is in the upper part of the northeastern region and in Cambodia;

Ma Tung Song Recycling Company Limited located in Tung Song District, Nakorn Sri Tammarat Province—in addition to recycling scrap glass, the company also buys and sells various types of plastic scrap and has a marketing target in the southern part of the country;

V.S. and B. Recycle Network Company Limited has an office in Din Daeng District of Bangkok City and serves as the main center for the collection of all types of recycling materials. The company emphasizes partnerships with other companies in the same business in every region in producing quality products at reasonable prices. It also underlines quality service with on-time and impartial delivery between the collectors and the manufacturers thereby creating a win-win situation for the recycling and reuse business.

Objectives:

1. Profits should be used to sustain the business and contribute to the growth of the company.
2. Take the leadership role in the recycling business to reduce waste and conserve the environment as well as the country’s natural resources and energy, including the reduction of production capital of various relevant industries, which could in turn enhance domestic and international competition.
3. Directly and indirectly promote understanding within the society in accepting the production and consumption of recycled products—that recycled products are of high quality, clean, safe, and has a low production capital, so as to increase the social, economic and environmental-friendly status of the recycling business.
4. Build the capacity of personnel by promoting in-house training as well as on-the-job training to increase workers efficiency and capacity in managing their own businesses.

Outline of Practices/Actions:

Krung Thai Glass Company Limited buys and sells scrap of glass by collecting pieces of glass scrap from domestic minor scrap material operators and sell them to local and international industries for further use. Krung Thai Glass buys two types of scraps: (1) glass scrap and broken glass bottles, and (2) reused glass bottles such as alcoholic beverage bottles, which are usually beer bottles. The company generally buys from minor scrap material operators and classified its materials into three groups: (1) large bottles such as fish sauce bottles, liquor bottles, and beer bottles, (2) small bottles namely energy drink bottles, and (3) medicine bottles with low turn-over rate. The company classifies its scrap materials for selling into two major groups: (1) glass scrap and (2) reuse bottles. The company pulverizes broken glass bottles or glass that are difficult to clean or that have a low value, such as medicine bottles based on orders received, and delivers them directly to the customers. Scrap glass for sale can be classified into three colors: white, tinted, and green, which is the color being sold the most. The company separates reuse bottles and cleanses them before selling them back to their manufacturers for further use. The main market for reused bottles is the local market, which generates approximately 300,000 tons of reused bottles per year or more than 80 percent of the total buying-selling volume. For the international market, about 40,000 tons of glass scrap are being exported per year or around 17 percent of the total buying-selling rate, with the main destinations for export being the Philippines, Vietnam, China and Malaysia, respectively, in terms of volume.

Products and Production Quantity and Types

Glass scrap	amount	30,000 tons per month
Used bottles	amount	2,000 million bottles per month
Metal scrap	amount	2,000 tons per month
Paper scrap	amount	1,500 tons per month
Plastic scrap	amount	500 tons per month
Other scrap materials	amount	200 tons per month

Results/Impacts

On the economic side:

Promote and encourage local and foreign processing industries to reserve raw materials in a sufficient amount necessary to feed into their production processes and to adequately meet the demands of the consumers. In addition, to promote the development of technology and improve the production processes of recycled materials that are less expensive than virgin materials, which directly affect the production capital and the price of the products.

On the social side:

Recycled products are important options for consumers that encourage consumers who, while being more aware, can also take part in protecting and maintaining natural resources and the environment.

On the environment side:

Glass recycling allows for sustainable use of natural resources. It reduces the need for landfill space, lessens the use of natural resources domestically and internationally, and cuts the use of energy during production processes. Producing glass from glass scrap requires less energy, compared to using virgin raw material (sand).

Keys for success

The important tools that allow the company to succeed economically, socially and environmentally, include economic instruments and design, planning and management.

Critical Instruments

Design, planning and management

The outstanding feature of the company is that the branch companies were allowed to play a significant role in operating a specific business that aims to create operational strength and be the best in this type of business. For example, Krung Thai Glass Company Limited stresses buying and selling of only one type of product—glass, and therefore has taken a comprehensive and step-by-step approach to growth that has led to the creation of specific skills and expertise for its employees. The company has established a defined work and managing plan since the start of the glass separation system. Products that are still in good condition will be sold to local companies for reuse. Products that have been damaged will be crushed into glass scrap and sold to recycling factories based on the color of the glass. The company has also developed a cleansing system for products based on the need or orders of its customers, such as color, size and dampness, and in so doing creates confidence among its customers that the products they are about to receive are of high quality.

Economic instruments(Others)

Pricing mechanisms are used to determine the buying and selling of products. If the domestic prices of a product are found to have dropped, the product will be kept in stock until the prices have risen again, or the product is sold to foreign companies. In international trading, besides the product price, which is the main factor that determines the buying and selling of the product, the distance of transport for certain products, and international taxes, are also factors that business owners take into consideration. In this context, glass scrap is heavy and costly to transport. Thus, countries will choose only partner countries that promote glass recycling, with a low tax rate, since glass scrap is not expensive and does not generate much profit.

Lessons Learned

A marketing system that divides marketing responsibilities based on location and product types has enabled Krung Thai Glass Company Limited and its four affiliated companies to succeed in their businesses. Krung Thai Glass Company's operational strategy that emphasizes particular products, a precise management plan, and comprehensive approaches have allowed it to have a large share in the market, thereby endowing it with greater power to negotiate. The direction and operations therefore directly and clearly affect the society as a whole.

Applicability

Whereas the company is one of the largest collectors of glass scrap, with a high market share, it plays a significant role in promoting and supporting the country's reuse and recycling business, leading to the development of modern and standardized managing systems that can serve the needs of the customers in terms of quality, facility and promptness. In addition, the company is considered to be a capacity building and income-generating source for society and can serve as a role model for other companies or those who are interested in investing in the reuse and recycling business.

Information date

7 March 2003

Contact

Krung Thai Glass Company Limited
Assistant Managing Director
8 Moo 2 Phaholyotin Rd.,
Lumsai Wangnoi District
Ayuthaya Province
Thailand
Tel: 66-035-271146-7 Fax: 66-035-271446
Office: 589 Sutthiporn Dindaeng
Bangkok
Tel: 662-6417721-2 Fax: 662-2478092

Provider of this information

Panrat Phechpakdee, Research Fellow, Thailand Environment Institute (TEI), panrat@tei.or.th