

9. INDEPENDENT MARKET RESEARCH REPORT

(Prepared for inclusion in this Prospectus)



VITAL FACTOR CONSULTING

Creating Winning Business Solutions

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23 September 2003

The Board of Directors
Century Bond Bhd
PLO 98, 99 Senai Industrial Estate Phase 3
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Dear Sir/Madam

Assessment of the Paper and Polymer-Based Packaging Industry

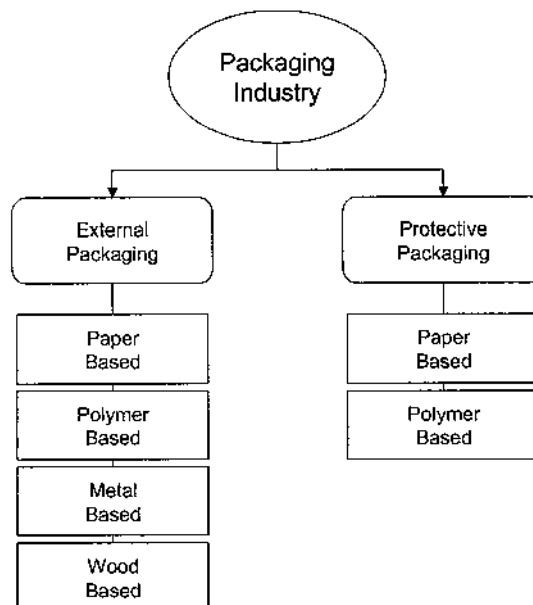
The following is an extract of the Assessment of the Paper and Polymer-Based Packaging Industry in Malaysia prepared by Vital Factor Consulting Sdn Bhd for inclusion in the Prospectus of Century Bond Bhd in relation to its listing on the Second Board of the Kuala Lumpur Stock Exchange.

1. Background

- The objective of this report is to provide an independent assessment of the Paper and Polymer-Based Packaging Industry in Malaysia.
- Century Bond Bhd and its subsidiaries (Century Bond Group) are principally involved in the manufacturing of paper and polymer-based packaging and related packaging consumables. These activities include the following:
 - Manufacture of paper and polymer based bags, and bulk bags;
 - Corrugator and converter of corrugated cartons;
 - Manufacture of protective packaging;
 - Converter, manufacture and marketing of packaging consumables.

2. Overview of the Industry

- The structure of the Overall Packaging Industry is as depicted below:



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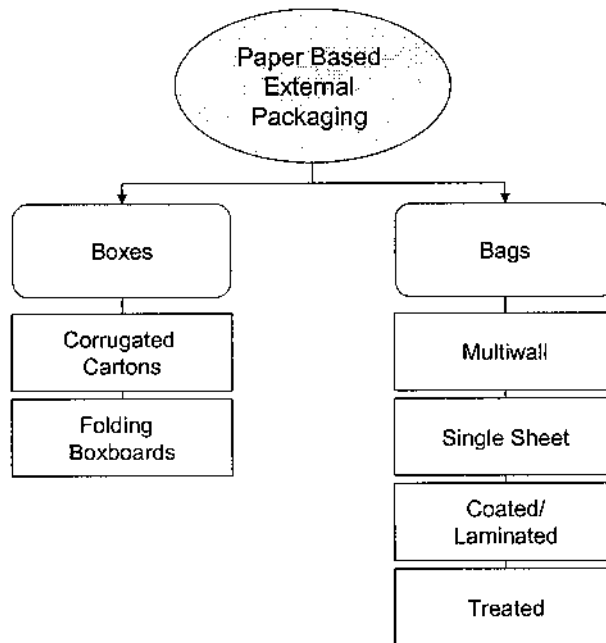
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- **External Packaging:** This segment focuses on the manufacturing of packaging materials for external use, which is utilised in almost all types of industries. The most common external packaging being corrugated cartons.
- **Protective Packaging:** This segment of the industry focuses on the manufacturing and fabrication of protective materials to be used in the internal packaging of fragile finished products, components and materials such as electronics and electrical products, food and other consumer products.

Paper-Based External Packaging

- The structure of the Paper-Based External Packaging sector is as depicted below:



- Corrugated cartons have two components, namely the liners and the medium. Liners are the flat facing paper that adheres to the medium. It is usually made from kraftliner paper (KLP) or testliner paper (TLP). The medium is the wavy, fluted paper in between the liners. The wavy, fluted paper is made from corrugating medium paper (CMP).
- There are many user-industries for corrugated cartons. The breakdown by sales of the major user-industries is as follows:

-	Electrical and Electronics:	38%;
-	Food, Beverage and Tobacco:	22%;
-	Converter Sheets Plants:	10%;
-	Consumer Services:	10%;
-	Chemical Related Products:	9%;
-	Textile and Garments:	6%;
-	Wood Based Products:	5%.

(Source: Brief on Pulp and Paper Industry, Industry Brief February 2001, Malaysian Industrial Development Authority).

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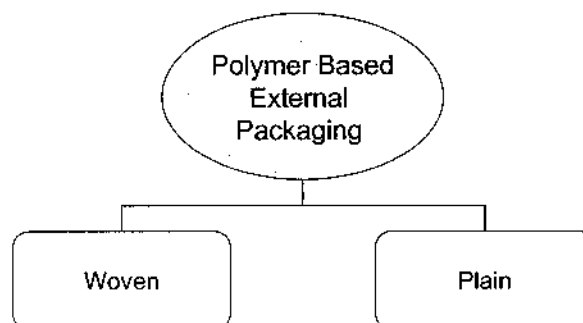
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- Folding boxboard is a multi-ply board with an outer ply of sulphate kraft pulp and middle ply of mechanical pulp (ground wood or thermo mechanical). Folding boxboards are used primarily for consumer cartons for packaging dry and moist foods, cigarettes and other consumer goods.
- As for paper bag products, a multi-wall bag contains several separate layers of materials, including papers, films, foils, special coatings, laminations, and surface of other treatments.
- There are various types of materials used for the manufacture of multi-wall bags. The materials used are determined by the contents of the bag and the degree of product protection required to safeguard the product.
- Multi-wall bags are used for the packaging of consumer and industrial products and are commonly used for the packaging of cement, aggregates and pet food.
- Single sheet paper bags are made of one layer of kraft or hardboard paper which are usually used for the following applications:
 - grocery bags;
 - merchandise bags;
 - shopping bags;
 - lawn and leaf bags;
 - shipping and industrial bags.
- Others include coated, laminated and treated paper bags. These types of bags serve as a protection barrier and are highly suitable for packing of fibre sensitive goods.
- Lamination, often combined with coatings, produces a composite material with improved properties of strength and non-permeability. The laminated materials can be paper, metal foil or plastic film.
- Treated paper bags are bags that have been impregnated with chemicals such as wax to achieve desired effects and preserve the contents of products stored in bags.
- The Century Bond Group is involved in the manufacture of corrugated cartons and multi-wall paper bags.

Polymer-Based External Packaging

- The Polymer-Based External Packaging is further segmented into two main categories as follows:



9. INDEPENDENT MARKET RESEARCH REPORT (continued)



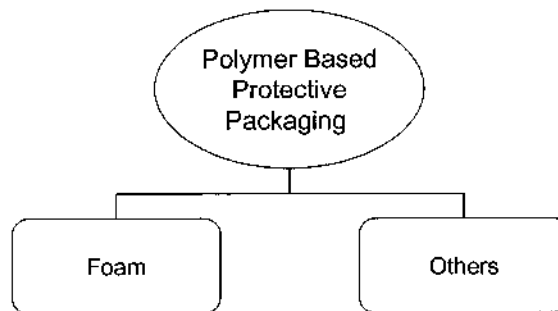
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- Common applications of polymer-based woven bags are found in the packaging of food such as rice, flour, animal feed and flour.
- Plain polymer-based bags are used widely in the packaging of industrial and consumer goods.
- The Century Bond Group is involved in the manufacture of polymer-based plain and woven bags and bulk bags.

Polymer-Based Protective Packaging

- The structure of Polymer-Based Protective Packaging is segmented into two main categories as follows:



- Generally, there are two types of manufacturing processes of foam:
 - **Moulded Foam:** This is produced by dispensing a gas throughout the liquefied polymer to be form into the shape of the mould.
 - **Extruded Foam:** This is where the liquefied polymer is forced through a funnel and puffed up under heat and pressure to form into the desired end-product, which is usually in cylindrical or sheet form.
- There are four main types of foam used in protective packaging. They are petrochemical based and are as follows:
 - Expanded Polyethylene (EPE);
 - Expanded Polystyrene (EPS);
 - Expanded Polyurethane (EPU);
 - Expanded Polypropylene (EPP).
- Other less common types of foam, also petrochemical based, are as follows:
 - Ethylene Vinyl Acetate Copolymer Foam;
 - Ethylene Vinyl Acetate Foam;
 - Polyester Foam, Polyvinyl Chloride Foam;
 - Polymethacrylimide Foam;
 - Polymeric Foam.
- Century Bond Group is involved in the manufacture of protective packaging using EPE foam.

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3. **Government Legislation, Policies and Incentives**

Government Regulations

- Apart from the normal manufacturing licence, there are no material government laws, regulations and policies that may impede on operators' performances and growth within a free enterprise environment.

Incentives

- The Malaysian Government provides some incentives to local operators in the Packaging Industry. This indicates the Government's intention to nurture the growth and development of local operators in this industry.
- The Tariff Related Incentives available to eligible operators in the Packaging Industry include:
 - Exemption from Import Duty on Raw Materials or Components;
 - Drawback of Import Duty on Parts, Ingredients or Packaging Materials Used.

Environmental Regulations

- The use of any controlled substance as blowing agent to produce extruded polyethylene foam is prohibited with effect from 1 July 1995 under the Environmental Quality Act 1974 and Environmental Quality (Prohibition on the use of Chlorofluorocarbons and other Gases as Propellants and Blowing Agents) Order 1993 (*Source: Environmental Quality Act and Regulations, all amendments up to November 2001*).

4. **Labour Usage**

- In comparison to the Overall Manufacturing Industry, the manufacture of Containers and Boxes utilised approximately 2.0 times more labour for each Ringgit of sales generated whilst the manufacture of Plastic Products sector utilised 2.7 times more labour for each Ringgit of sales generated in 2002 (*Source: Monthly Manufacturing Statistics, March 2003, Department of Statistics Malaysia*).

5. **Supply and Supply Dependencies**

- The main raw materials used in the production of Paper and Polymer-based Packaging are CMP, TLP, KLP, Whiteliner Paper (WLP), Sack Kraft Paper and Resins.

CMP and Liner Papers

- In Malaysia, there are seven companies manufacturing CMP and TLP. Genting Sanyen Industrial Paper Sdn Bhd supplies approximately 50% of local production of CMP and TLP (*Source: Industry Brief on the Pulp and Paper Industry, February 2001, Malaysian Industrial Development Authority*).
- Local production of CMP and TLP is insufficient to meet local demand. As such imports are required.

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- In 2002, value of imported CMP declined by 82.5% to RM29.7 million. Between 1998 and 2002, import value of CMP declined at an average annual rate of 14.8% (*Source: Department of Statistics*).
- In 2002, the import value of TLP, KLP and WLP increased by 42.6% to RM98.8 million. Between 1998 and 2002, import value of TLP, KLP and WLP grew at an average annual rate of 17.1% (*Source: Department of Statistics*).

Kraft Paper

- As sack kraft paper is made from 80% virgin pulp and KLP is made from 30% virgin pulp, most of these types of paper are imported (*Source: Industry Brief on the Pulp and Paper Industry, February 2001, Malaysian Industrial Development Authority*).
- In 2001, production quantity of Kraft Paper reached 63,808 tonnes, representing an increase of 14.6% over the previous year. Between 1997 and 2001, production quantity of Kraft Paper grew at an average annual rate of 9.9% (*Source: Department of Statistics*).
- Between January and July 2002, production quantity of Kraft Paper grew by 28.8% compared to the corresponding period in 2001 (*Source: Department of Statistics*).
- In 2002, the import value of Sack Kraft Paper increased by 0.1% to RM93.4 million. Import value of Sack Kraft Paper grew at an average annual rate of 4.6% between 1998 and 2002 (*Source: Department of Statistics*).

Resins

- In 2002, the sales value of Synthetic Resins, Plastic Materials and Man-made Fibre except glass increased by 9.6% to RM5.8 billion. Between 1998 and 2002, sales value of Synthetic Resins, Plastic Materials and Man-made Fibre except glass grew at an average annual rate of 13.2% (*Source: Monthly Manufacturing Statistics, March 2003, Department of Statistics*).
- In 2001, the production quantity of Polyethylene (PE) declined by 41.3% to reach 338,114 tonnes. Production quantity of Polyethylene declined at an average annual rate of 17.6% between 1999 and 2001 (*Source: Department of Statistics*).
- In 2002, the import value of Polymer of Ethylene in primary forms increased by 12.0%. The import value of Polymer of Ethylene in primary forms grew at an average annual rate of approximately 11.0% between 1998 and 2002 (*Source: Monthly External Statistics December 1999, 2000, 2001 and 2002, Department of Statistics Malaysia*).
- In 2002, the import value of high-density Polyethylene (HDPE) Resin increased by 6.4% to RM318.5 million. Import value of HDPE Resin grew at an average annual rate of 11.4% between 1998 and 2002 (*Source: Department of Statistics*).
- Import value of low-density Polyethylene (LDPE) increased by 9.1% to RM326.5 million in 2002. Between 1998 and 2002, the import value of LDPE Resin declined at an average annual rate of 6.0% (*Source: Department of Statistics*).

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6. Demand and Demand Dependencies

- As packaging is a universal product, it is used in virtually all industries. Its applications are extensive and diverse. Some of the major end-user industries of Paper and Polymer-based Packaging include the following:
 - **computers and peripherals** such as personal computers, notebooks, laptops, keyboards, monitors and modems;
 - **telecommunications equipment** such as mobile phones, telephones, telecommunication devices and satellite receivers;
 - **consumer electronics** such as televisions, cameras, electronic organisers and calculators;
 - **electrical appliances** such as refrigerators, toasters, microwave ovens and washing machines;
 - **building materials** such as cement, aggregates and tiles;
 - **food and beverage** such as packet drinks, cookies, cakes and flour;
 - **fresh produce** such as fruits and vegetables;
 - **chemicals and healthcare products** such as fertilizers and drugs;
 - **animal feeds.**
- The diversity in end-user industries ensures continuing demand and opportunities for Paper and Polymer-Based Packaging operators.

7. Competitive Nature and Intensity

- Operators in the Paper and Polymer-based Packaging Industry face **normal** competitive conditions.
- In a free enterprise environment, competition is based on a number of factors, including:
 - Quality of products and services
 - Cost competitiveness
 - Prompt delivery
 - Manufacturing capabilities and capacities
 - Customer convenience.
- Generally, competition among operators in the Paper and Polymer-based Packaging Industry within Malaysia is **intense**, however there are different levels of competitive intensity depending on the sectors of the markets served. This is based on the following:
 - Within corrugated cartons, there are approximately 250 to 300 converters of paperboard and approximately 70 corrugators of carton boxes in 2002 (*Source: Vital Factor Consulting Sdn Bhd*).
 - Thus, the competition for converters is more intense compared to corrugators. Companies that are fully integrated manufacturers of corrugated cartons face less competition as they have a significant advantage over other pure converters or pure corrugators that mainly focuses on single activity. More importantly, companies that integrate corrugating and converting activities are able to offer competitive rates as a result of economies of scale and cost savings from purchases of corrugated paperboards.

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- Within the manufacturing of polymer bags, there are approximately 450 companies manufacturing different types and range of polymer-based bags (*Source: Vital Factor Consulting Sdn Bhd*).
- Thus, in this category of the market, competition is most intense due to the large number of operators. However intensity of competition is dependent on the product categories for example basic polymer bags would face the most competition as it is the least complex in terms of manufacturing processes. Companies that focus on value-added or customised polymer packaging that requires strict adherence to quality and specifications face less competition compared to manufacturers of basic polymer bags. More complex polymer bags also apply to polymer bags for industrial applications such as Flexible Intermediate Bulk Container (FIBC) and value-added 'hybrid' packaging that uses a combination of paper and polymer materials.

8. Key Players in the Industry

- There are many operators in the Paper and Polymer-Based Packaging Industry in Malaysia. Some of the major operators in the packaging industry include (non-exhaustive and not in any order):
 - Operators Focusing on Corrugated Cartons
 - . Genting Sanyen Industrial Paper Sdn Bhd;
 - . Sime Rengo Packaging (M) Sdn Bhd.
 - . Public Packages Berhad
 - . Box-Pak Malaysia Berhad
 - . United Kotak Sdn Bhd
 - . Super Box Malaysia Sdn Bhd
 - . Tritex Containers Sdn Bhd
 - . Ornapaper Industry (M) Sdn Bhd
 - . Master-Pack Sdn Bhd
 - . Inter-Pacific Packaging Sdn Bhd
 - . Golden Frontier Packaging Sdn Bhd
 - Operators Providing a number of Packaging Products
 - . Federal Packages Berhad
 - . Muda Holdings Berhad
 - . HPI Resources Berhad
 - . Cenpak Paper products (M) Sdn Bhd
 - . Ron-Seng Paper Products Sdn Bhd
 - . Versatile Paper Boxes Sdn Bhd
 - Operators Focusing on Polymer Bags
 - . Woventex Corporation Sdn Bhd
 - . Guolene Packaging Industries Berhad
 - . Lida Plastic Industries Sdn Bhd
 - . Great Wall Plastic Industries Berhad
 - . Johstar Industry Sdn Bhd
 - . Musa & Rahman Plastic Industries Sdn Bhd
 - . Nordenia-Thong Fook (Malaysia) Sdn Bhd
 - . Poly Carriers Industries (Malaysia) Sdn Bhd
 - . Sinliplas Holding Sdn Bhd
- Some of the above companies are also involved in the manufacture of moulded fibre protective packaging, corrugated carton boxes and cardboard boxes. (*Source: Vital Factor Consulting Sdn Bhd*)

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9. Barriers to Entry

- Generally, barriers to entry into the Paper and Polymer-Based Packaging Industry are moderate.
- This is mainly substantiated by the number of manufacturers in the industry as follows:
 - Competition within the manufacturing of paper-based packaging is intense as there are approximately 33 licensed companies manufacturing corrugated cartons in Malaysia and approximately 97 converters of paperboard in 2002 (Source: Vital Factor Consulting Sdn Bhd).
 - Competition within the polymer-based packaging is intense as there are 50 to 55 operators in the polymer-based protective packaging focusing on foam manufacturing and fabrication (Source: Vital Factor Consulting Sdn Bhd).

Government Policies

- Currently the import of different forms of packaging is subjected to various import duties and this provides some form of barriers to entry for imports.

Products	Import Duties (%)	ASEAN *CEPT (%)
Corrugated carton boxes and multi-wall paper bags	25	5
Plastic bags	30	5
Woven, PP woven laminated and bulk bags	25	5
Expanded Polyethylene foams	25	5

* = Common Effective Preferential Tariff (Source: Malaysian Customs Tariff 2001)

- However, import duties will be reduced to 5% from 2003 with the implementation of the Asean Free Trade Agreement (AFTA) and CEPT programmes within ASEAN region.
- Other barriers to entry imposed by the Government include the equity policy whereby 100% foreign equity is disallowed in manufacturing of paper and plastic packaging (including bottles, films, sheets and bags) in view of nurturing the development of existing capabilities and expertise of local small and medium scale companies.

Capital and Set-up Costs

- The barriers to entry based on capital requirements (excluding land and building) are moderate.
- The capital cost of setting-up a small sized manufacturing plant producing paper and polymer-based packaging would cost approximately RM1.0 million (excluding land and building). However this is restricted to basic and minimal equipment and machinery including:
 - RM500,000 in extruders, cutters and printing machines for the manufacturing of polymer-based packaging products;
 - RM500,000 in converting machines for the manufacturing of paper based packaging products.

(Source: Century Bond Group)

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- At this level of entry, production would be highly manual and restricted in terms of capacity. The average turnover for a paper and polymer-based packaging company of this size would be approximately RM3 to RM5 million per annum (*Source: Century Bond Group*).
- The capital cost of setting-up an integrated corrugating and converting and, paper and polymer packaging manufacturing plant of medium size would cost RM10 to RM15 million (excluding land and building). This would be segmented into the following:
 - RM3 million in extrusion, cutting and printing machines for the manufacturing of polymer-based bags;
 - RM8 million in corrugating and converting machines for the manufacturing of corrugated cartons and paper bags.(*Source: Century Bond Group*)
- However to operate profitably, capital cost starts to escalate as there is requirement to have more equipment and machinery to generate a higher volume of production.

Testing and Calibration Services

- In addition, there is the capital cost of setting up the laboratory that provides testing and calibration services. To ensure that the packaging meets the specifications of customers and in some cases industry quality standards, there is the need to have testing equipment and facilities.
- In some packaging products such as bulk bags, quality assurance tests undertaken have to comply with industry standards such as AS3668, which is a critical requirement for customers.
- The typical set-up cost of a testing laboratory would be approximately RM800,000 and this includes the various calibration equipment to conduct tests such as drop test, burst strength, surface resistivity test, moisture content tests and other tests.
- Due to the above investment cost, only larger operators are able to incorporate testing and calibration facilities into their operations.

Technical Skills and Experience

- Technical skill requirements in meeting the packaging specifications of customers are relatively moderate, particularly for industrial applications. As most of the packaging is customised, technical skills and experience is critical in ensuring that the combination of properties meet with customers' specifications for example packaging strength, durability, moisture resistance, compression resistance and internal protection.
- The other areas that require a certain degree of technical skills and experience is the ability to develop new and innovative packaging such as 'hybrid' packaging that combines the use of paper and polymer materials. The ability to develop new packaging products would enable manufacturers to maintain their competitive edge by keeping abreast with changing consumer preferences and trends.

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Track Record

- Track record also forms one of the barriers to entry for new entrants. As packaging is critical to ensure the protection of the product or content, customers would prefer to deal with operators that have a proven track record. More importantly, other customers in similar end-user industries would serve as a critical reference site to win new customers.
- Track record becomes even more of a requirement for operators that provide higher value or complex packaging such as bulk bags or Flexible Intermediate Bulk Containers. This is because manufacturing these bags requires strict adherence and compliance to industry standards.
- Thus it will be difficult for a new entrant to gain immediate access into the market without any proven track record.

10. Barriers to Exit

- Barriers to exit for the manufacturing of Paper and Polymer-Based Packaging are low. This is because the equipment and machinery can be sold to other operators within the same industry, and, in total, there are close to one thousand of various types of operators within the industry.

11. Industry Life-Cycle, Outlook and Growth Forecast

- The Paper and Polymer-Based Packaging Industry is in the **growth** stage of its life-cycle.
- The outlook for the Paper and Polymer-Based Packaging Industry is **favourable**. The industry is forecasted to grow at approximately **5% to 7%** per annum for the next five years.
- The following factors and observations in local production and export, and end-user industry performances provide support for the growth forecast:

Local Production

- Sales value of manufacture of Containers and Boxes grew at an average annual rate of 12.2% between 1998 and 2002 (*Source: Monthly Manufacturing Statistics, March 2003, Department of Statistics Malaysia*);
- In 2002, the sales value of manufacture of Containers and Boxes increased by 1.9% to reach RM1.9 billion (*Source: Monthly Manufacturing Statistics, March 2003, Department of Statistics Malaysia*);
- Between 1997 and 2001, sales value of manufacture of Corrugated Fibreboard Cartons grew at an average annual rate of 9.3%
- In 2001, the sales value of manufacture of Corrugated Fibreboard Cartons decreased by 3.4% to RM895.2 million compared to the previous year;
- Between January and July 2002, the sales value of manufacture of Corrugated Fibreboard Cartons grew by 8.1% over the same period in 2001;

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- Between 1997 and 2001, production quantity of Corrugated Fibreboard Cartons grew at an average annual rate of 2.7%;
- In tandem with the sales of manufacture of Corrugated Fibreboard Cartons, the production quantity decreased by 7.5% in 2001;
- Between January and July 2002, production quantity of manufacture of Corrugated Fibreboard Cartons grew by 21.4% over the same period in 2001;
- Sales value of manufacture of Cartons (refers to Hardboard Cartons and not Corrugated Cartons) grew at an average annual rate of 5.8% per annum from 1997 to 2001;
- In 2001, the sales value of manufacture of Cartons grew to RM257.3 million, an increase of 12.8% over the previous year;
- Between January and July 2002, the sales value of manufacture of Cartons increased by 12.2% over the same period in 2001;
- Production quantity of Cartons grew at an average annual rate of 1.5% between 1997 and 2001;
- In 2001, production quantity of Cartons grew by 55.1% to reach 165.5 million tonnes;
- Between January and July 2002, the production quantity of manufacture of Cartons increased by 24.4% over the same period in 2001;
- Between 1997 and 2001, sales value of manufacture of Paper Bags grew at an average annual rate of 13.3%;
- In 2001, sales value of manufacture of Paper Bags grew by 4.2% to RM244.1 million;
- Between January and July 2002, sales value of manufacture of Paper Bags decreased by 13.1% over the same period in 2001;
- In 2001, the production quantity of Paper Bags grew to 205.9 million units, representing an increase of 21.8% over the previous year;
- Between January and July 2002, the production quantity of Paper Bags of Paper Bags decreased by 0.1% over the same period in 2001.

(Source: Department of Statistics Malaysia);

Exports

- The export value of Corrugated Carton Boxes grew at an average annual rate of 24.3% from 1998 to 2002. Corrugated Carton Boxes are exported under the category of "Cartons, Boxes and Cases of Corrugated Paper or Paperboard";
- Between 1998 and 2002, the export value of Multi-wall Paper Bags decreased at an average annual rate of 3.9%. Multi-wall Paper Bags are exported under the category of "Other Sacks and Bags including Cones";

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- Export value of Plastic Bags grew at an average annual rate of 4.9% between 1998 and 2002. Plastic Bags are exported under the "Sacks and Bags including Cones, of Other Plastics" and "Boxes, Cases, Crates and Similar Articles of Plastics" sectors;
- Between 1998 and 2002, the export value of Woven Bags decreased at an average annual rate of 38.6%. Woven Bags are exported under the category of "Other Sacks and Bags, of Polyethylene or Polypropylene (PP) Strip or The Like";
- Between 1998 and 2002, the export value of PP Woven Laminated Paper Bags declined at an average annual rate of 1.3%. PP Woven Laminated Paper Bags are exported under the category of "Sacks and Bags, Having a Base of a Width of 40cm or More";
- The export value of Bulk Bags decreased at an average annual rate of 16.5% between 1998 and 2002. Bulk Bags are exported under the category of "Flexible Intermediate Bulk Containers (FIBC) of Man-made Textile Materials";
- Between 1998 and 2002, the export value of EPE Foams grew at an average rate of 34.8% per annum. EPE foam is exported under the category of "Foil, Strip and Other Flat-Shape Article Non-Cellular of Polymers of Ethylene"

(Source: Department of Statistics Malaysia).

Performance of End-user Industries

- As part of the growth of the Paper and Polymer-Based Packaging Industry is also dependent on the performance of its end-user industries, the following is an analysis of performance in some of these sectors over the last five years:
 - Between 1997 and 2001, output of the Electronics Industry recorded an average annual growth rate of 13.3% *(Source: The Electrical and Electronics Industries in Malaysia, Industry Brief 2002, Malaysian Industrial Development Authority);*
 - Between 1997 and 2001, output of the Electrical Industry increased at an average annual rate of 2.3% *(Source: The Electrical and Electronics Industries in Malaysia, Industry Brief 2002, Malaysian Industrial Development Authority);*
 - The ex-factory sales value of manufacture of Office, Computing and Accounting Machinery grew at an average annual rate of 1.6% between 1998 and 2002;
 - Between 1998 and 2002, the sales value of Food Processing increased at an average annual rate of 2.2%;
 - Between 1997 and 2001, the sales value of Cement (All Types) declined at an average rate of 5% per annum *(Source: Department of Statistics Malaysia);*
 - For the first seven months of 2002, the sales value of Cement (All Types) grew by 21.3% over the corresponding period in the previous year *(Source: Department of Statistics);*

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- Between 1998 and 2002, the production quantity of Cement (All Types) increased at an average rate of 8.4% per annum;
- Between 1998 and 2002, the production quantity of Cement Roofing Tiles (All Types) grew at an average annual rate of 15.8%;
- The sales value of manufacture of Prepared Animal Feed grew by 3.6% per annum over the past five years, from RM2.0 billion in 1998 to RM2.3 billion in 2002;
- Between 1998 and 2002, the sales value of manufacture of Other Basic Industrial Chemicals, with the exception of fertilisers, grew by an average annual rate of 16.8%.

(Source: Monthly Manufacturing Statistics, March 2003, Department of Statistics)

12. Areas of Growth and Opportunities

Retail Packaging

- Manufacturers of external packaging can also address opportunities in the retail sector through the manufacture of packaging for consumer products.
- The rise in consumerism has created more discerning customers that have higher expectations, including from the packaging of the product perspective. This is because retail packaging represents the first impression to attract buyers.

Product Innovation

- Product innovation has the ability to create new usage and applications to address new markets. More importantly, this could win market segments from alternative packaging materials.
- Product innovation can come in different forms including the following:
 - innovation in design to meet varying needs for example removing the need for internal protective materials;
 - using a combination of materials to create 'hybrid' packaging products;
 - creating effective bio-degradable plastic bags;
 - creating innovative products for specific industry applications for example packaging for corrosive materials;
 - chemical treatment to create new and desirable properties for example low fire rating by treating packaging materials with fire retardant chemicals.

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13. Threats and Risk Analysis

Implementation of Asean Free Trade Area (AFTA)

- The reduction of import duties to between 0% and 5% with the implementation of AFTA through CEPT would make imports very competitive against locally manufactured products.
- CEPT is the mechanism by which tariffs on goods traded within the Asean region, which meet a 40% Asean content requirement, will be subjected to a reduction of the above-mentioned range of tariff from 2003 (2006 for Vietnam, 2008 for Laos and Myanmar).

Mitigating Factors

- AFTA would apply primarily to paper and polymer-based bags as carton boxes are too bulky and therefore not economically viable to be imported into Malaysia. From that perspective, imports of carton boxes are less likely to be a major threat against local manufacturers.
- In addition, end-users of packaging especially carton boxes would prefer to source their requirements from manufacturers that are in close proximity for convenience especially those with just-in-time (JIT) requirements in manufacturing.
- As Malaysia is a major petrochemical producing country, resins are easily available at cost competitive prices. This would provide local manufacturers with a cost advantage compared to imports of polymer-based bags.

Dependency on Imported Raw Materials

- With paper-based packaging, there is a dependency on imports of paper especially sack kraft and kraftliner paper. Very little of these types of paper are produced locally in Malaysia with domestic consumption mainly being met by imports. This is because sack kraft and kraftliner papers require the use of a relatively higher content of virgin pulp as raw material.
- Sack kraft and kraft liner papers are used in the production of corrugated cartons as well as multi-wall paper bags such as cement and fertiliser bags.

Mitigating Factors

- There are numerous sack kraft paper producing countries in the world. Some of the countries of imports of sack kraft paper into Malaysia in 2001 included Germany, Sweden, United States, Poland and Russia among many others (*Source: Department of Statistics*).
- Similarly for kraftliner paper, some of the countries of imports into Malaysia in 2001 included, among others, Japan, United States, Thailand, Korea and New Zealand (*Source: Department of Statistics*).
- As such, threats in the supply of sack kraft and kraftliner papers are relatively low.

9. INDEPENDENT MARKET RESEARCH REPORT (continued)



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- In addition, with the implementation of AFTA which will result in lower or zero import duty tariffs on all types of papers, more suppliers of sack kraft paper and kraftliner paper will enter the Malaysian market. As such, the prices of these types of papers will be more cost-competitive. This is favourable to manufacturers of paper packaging products as lower paper prices will reduce the cost of raw materials.
- As part of the Government's intention to help local manufacturers to maintain cost competitiveness in the global market, local manufacturers are eligible for duty exemptions on kraftliner paper and drawback of duties on kraftliner paper, corrugating medium paper, whiteliner and testliner.

Global Environmental Concerns on Polymer Packaging

- Environmental concerns stemming from the non-biodegradability of polymer packaging in Europe and Australia has created increasing pressure on limiting the usage of polymer-based packaging in these countries. As a result, this may impact on the demand of imports of polymer packaging in Europe and Australia.
- While recycling and reuse continue to grow in popularity, most of the polymer-based packaging wastes are disposed through landfills. There is a general assumption that the wastes inside a landfill biodegrade, thus degradation of packaging wastes creates harmful liquid and gaseous by-products that could contaminate groundwater supplies and air, and threaten the ecological system.

Mitigating Factors

- There are not many viable alternatives to polymer packaging that can provide similar advantages in flexibility, strength, durability and cost competitiveness with the exception of paper packaging. Therefore, in the event of a reduction in the use of polymer packaging, it is likely to be replaced by paper packaging.
- The environmental issue and concerns about polymer packaging are not new and have been around for a long time. This indicates that there is no immediate threat to a material drop in the use of polymer packaging.

Fluctuations in Prices of Raw Materials

- As pulp, paper and polymer are commodities, the cost of sourcing these commodities as raw materials for the production of paper and polymer-based packaging is subjected to fluctuations in world prices. In some situations, increases in the price of raw materials are not easily passed onto users. This could impact on margins or alternatively, if the increase in cost is passed onto users, the manufacturer may not be price competitive.

Mitigating Factors

- Manufacturers with strong financial stability are able to hold stocks of these raw materials to cushion against fluctuations in prices.
- As these raw materials are commodities and therefore subjected to world prices, all manufacturers that use these materials are equally affected.

9. INDEPENDENT MARKET RESEARCH REPORT (continued)



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Foreign Exchange Risk

- Fluctuations in foreign exchange rates will have an impact on the prices of imported raw materials as well as export earnings.

Mitigating Factor

- With the current exchange rate pegged to the USD, manufacturers can plan with a higher degree of certainty as most international trades are conducted in USD.

14. Market Size

- In 2002, the market size for the Manufacture of Containers and Boxes of Paper and Paperboard (including manufacture of corrugated cartons and paper bags) in Malaysia was estimated at **RM2.1 billion** based on local production (*Source: Vital Factor Consulting Sdn Bhd*).
- In 2002, the market size for Corrugated Cartons in Malaysia was estimated at **RM1.6 billion** based on local consumption (*Source: Vital Factor Consulting Sdn Bhd*).

15. Market Share

- Using Century Bond Group's revenue of Containers and Boxes of Paper and Paperboard of RM71 million for the financial year ended 31 March 2003 as an approximation for calendar year 2002, the market share of Century Bond Group is estimated at **3%** of the total manufacture of Containers and Boxes of Paper and Paperboard in 2002.
- Using Century Bond Group's revenue of Corrugated Cartons of RM41 million for the financial year ended 31 March 2003 as an approximation for calendar year 2002, the market share of Century Bond Group is estimated at **3%** of the total manufacture of Corrugated Cartons in 2002.

Vital Factor Consulting Sdn Bhd has prepared this report in an independent and objective manner and has taken all reasonable consideration and care to ensure the accuracy and completeness of the report. It is our opinion that the report represents a true and fair assessment of the industry within the limitations of, among others, secondary statistics and information, and primary market research. Our assessment is for the overall industry and may not necessarily reflect the individual performance of any company. We do not take any responsibilities for the decisions or actions of readers of this document. This report should not be taken as a recommendation to buy or not to buy the shares of any company.

Yours sincerely

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