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Country Reports of China on the Electronics Sector

Asia Eco-Design Electronics
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1 . Introduction

(1)Overview of the electronics sector in China

Total product value of the electronics industry was

- 2670.7 billion RMB in 2005
- Increased by 21.8%
- Pearl River Delta , Yangtze River delta and the
- Region of Bohai Sea shared in the whole industry
- all surpass 70%.

(1) Overview of the electronics sector in China

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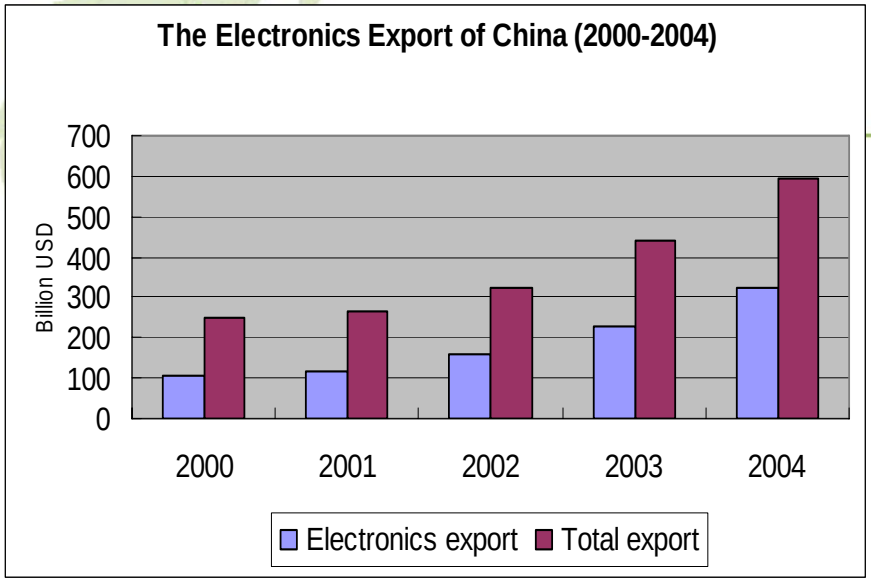
- The mainly types of enterprises
  - Foreign Invested Enterprises
  - State-owned Enterprises
  - Cooperative enterprises
  - Private enterprises
- By 2005, more than 26000 electronic enterprises in China, but most of them are SMEs, the low level of specialization and production centralization, weak technology, slow innovation of product, low technical content and lack of eco-design ability
- impossible to meet the environmental and health requirements.

(2) The electronics exportation of China (a)



Year	Electronics export (Billion USD)	Total export (Billion USD)
2000	105.31	249.21
2001	118.79	266.16
2002	157.08	325.57
2003	227.46	438.37
2004	323.40	593.36

Exports of Top ten Electromechanical Products in 2005

(Billion USD)

Export product	Sum	Increase %
Computer Equipment and its parts, accessories	105.02	4.8
Household Electric Appliances and Consumer Electronics	54.50	9.5
Telecommunication Equipment and components	48.50	3.3
Electronic Components	39.19	6.3
Electrical Appliances and Equipments	25.94	8.4
Mechanical Foundation	14.79	6.6
Automobile and its key part, accessories	10.93	4.0
Game set	9.14	0.2
Lifting and Construction Machinery and its spare parts	8.93	4.2
Illumination Device and components	7.45	1.4

Data from:

Ministry of Commence of People's Republic of China Department of Import and Export of Electromechanical products

(2) The electronics exportation of China (b)

a. **Processing and assembling with imported material and parts is the major trade mode of Chinese electronics exportation.**

more than 89% of electronic information products by November of 2005, the ordinary trade accounted for 7.77% .

b. **Foreign invested enterprises are the main part of Chinese electronic products exporters.**

In 2005, accounted for 66%

c. **The market of Chinese electronics is mostly in developed countries.**

In 2005, the export to USA increased by 30%, the export to Japan increased by 12.02%, the export to Holland increased by 45.66%.

d. **NOTE**: the export to Peripheral Countries such as Singapore, Malaysia, Thailand and India has risen obviously. The total export volume is 16.4 billion USD in 2005, which is equal to 80% of the Japanese market size.

2. Legislation and industry initiatives

(1) Legislation in china

The related laws and regulations which have implemented in China mainly include:

Laws or Regulations	Effective date
Environmental Protection Law of the People's Republic of China	December 26,1989
Cleaner Production Promotion Law	January 1,2003
Labor Law of the People's Republic of China	January 1,1995
Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Waste	April 1,1996
Safe Production Law of the People's Republic of China	November 1,1995
Administrative Measure on the Control of Pollution Caused by Electronic Information Products	March 1, 2007
Regulations on Checkout and Supervision Procedures concerning Imported Used Mechanical and Electrical Products	October 1, 2003
Bulletin Regarding to Strengthening Environment Management of WEEE	August 26, 2003
Technical Policies for controlling Pollution of Waste Battery	October 9, 2003
Technical Policies for controlling Pollution of dangerous Waste	December 17, 2001
Administrative Measures Regarding the Environmental Administration of New Chemical Substances	October 15, 2003

There are many compellent standards implemented to support the laws and regulations.

Administrative Measure on the Control of Pollution Caused by Electronic Information Products

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- Date of Issuance: February 28, 2006
- Date of enforcement: March 1, 2007

- It's established by Ministry of Information Industry of the People's Republic of China and other related Ministries and Administrations .

- Measures are taken for controlling and reducing environmental pollution and other public hazardous wastes during the process of manufacturing, selling, and importing electronic information products within the territory of the People's Republic of China.

Regulations and Standards under development	Date of Issuance:
Administrative Statute on the Recycle of End-of-life Home	August 18,2004
Appliances and Electronic Products	under establishing
Technical Policies for controlling Pollution of WEEE	March 4, 2004
Requirements for Concentration Limits for Certain Hazardous Substances in Electronic Information Products	under establishing
Marking for the Control of Pollution caused by Electronic Information Products	under establishing
Testing Methods for Regulated Substances in Electronic Information Products	under establishing

some local regulations are under establishing such as:

- Administrative Measure of ***Shanghai*** on the Control of Pollution Caused by Electronic Information Products
- Administrative Measure of ***Guangdong*** on the Reuse and Recycle of Wasted Electronic Information Products
- Regulations of ***Guangdong*** province on the Pollution Prevention and Control of Electrical Products

They all aim to regulate the action of enterprises, dealers and customers, and to build the local System of call-back, reuse, and recycling of waste electronics.

(2) Industry Initiatives in China

a. The Nation

Chinese government takes positive attitude to meet the challenge not only to improve the export growth, but also protect the domestic environment.

b. The Industry

Many trade organizations, research institutions and associations launched initiatives in various forms such as seminars for a fully discussion about :

- Situation of legislation progress on recycling and disposing of E-wastes
- Sharing experience from foreign recycling industry
- Situation of internal experimental stations and the problems encountered,
- Proposed corresponding management ideas and methods.

c. The Enterprises

Different levels of awareness in various scales of enterprises

Large electronic product manufacturers

Respond positively to the environmental requirements of domestic and international markets of the electronic products.

As a globally famous IT enterprise, Lenovo puts great emphasis on environmental protection. From the purchasing of raw material, designing, to producing, all are strictly implemented according to a whole series of international eco-producing system.

Foreign-owned and export-oriented enterprises

Most familiar with the requirements and standards of environmental and healthy conditions in general and have a relative high level of awareness on the environmental and health requirements.

SMEs

- Know little about environmental and health issues in key international markets;
- short of environment awareness;
- No strict environmental administration;
- Low level of specialization and production centralization;
- most lack of enthusiasm to apply for the environmental label, the systematic environmental certification such as ISO14000 series and the eco-design.

3. Implications for suppliers

(1) Implications f

a. Costs of compliar

Higher cost of the substitute in technol

Product certificatio

Cost of call-back

At present most of the manufacturers in China use the tin with a high

As the implementation of the directives, the manufacturers of the final products will have a stricter requirement in c of the upstream-supplie The suppliers of the co authentication, which u suppliers and manufactu

The implementation of the WEEE and RoHS may make the cost of the Chinese household appliance increase at least 10%.

supp ly includes: *Registration fee, Co on f household ctio Callbac imp local for dealing with the E-waste.*

Costs of compliance

The product's cost increase

b. Small suppliers and possible marginalisation

According to the Shenzhen Computation Quality and Check Academe's statistic, Sony has referred to about ***4000*** providers in the censor to meet the EU's Directives of, among which just about ***25%*** of them passed.

Besides, the Panasonic Company has done the same filtration; it has 208 providers and involving ***7268*** accessories of the air condition. But about ***25% (1860)*** of them are not eligible, and it means that 1/4 of the providers then is not eligible to the EU new command.

s brought tremendous pressure

material used widely in

use flameretardant in plastic.

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jointing technical standard, and make sure that the appliance performs well.

high cost of the substitute or the lack of technique.

Technological factor

c. Employment loss &Employment creation

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Export reduce

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Once the production line fall into disuse, there will be a huge threaten in the relative worker's employment.

- It becomes crucial to test and control the product of every working procedure. it also makes adding the related supervising position become necessary.
- It also provides a lot of chances for improving the 3rd party certification institution, and creates new employment in the society.

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ecycling

organizations who have got the ability, by all means, in the coming days there going to be more organization in this industry. Many new employments would be created.

d. Poverty alleviation and Labor standard

■ Except the employment creation analyzed above, accelerating the development of information society is an important way to alleviate the poverty too. To some extent, the implementation of the stricter directives will help to establish the China's information society.

- It will result in the more requirement on the technical upgrade, as well as the substitute of the hazardous original materials.
- It will also lead to that some small and medium size corporations whose manage level and the technology are low will be kicked out of the market.

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- The original methods like flowing handmade workshop *(as the picture described)* will restricted by the new issue of law, the original way of dealing with the E-waste which was non-normative, poor, and harmful to the operating workers' health will be replaced or improved.

Dismantling operation

Burning the wires to reclaim metals

4. Gaps and future needs

(1) Management need

a. Awareness on environmental/health requirements and information management

b. Improving the eco-labeling system of the electronic industry

c. Collect and disseminate the information

d. Certification

e. Environment department inside enterprise

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a. Awareness on environmental/health requirements and information management

- increasing tide of green consumption and the enhancing awareness of consumers about environmental protection
- the public will take a more serious attitude towards environmental and health issues of electronic products
- enterprises should collect and analyze correlative data and information

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b. Improving the eco-labeling system of the electronic industry

The Chinese Certification Committee for Environmental Labelling (CCEL), as third party certification agency, was established in May 1994, under the authorization of the China State Bureau of Technology Supervision (CSBTS) and the State Environmental Protection Administration, representing the Government to deal with environmental labelling certification as well as to administrate and supervise post- certification performances of enterprises.

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c. Collect and disseminate the information

- Official and unofficial networks to look up the relevant information;
- Official bulletins of information;
- Seminars organized by relevant departments;
- Information gathering by industry associations;
- Consultations provided by relevant consultation institutions;
- Analysis by relevant research institutions

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d. Certification

- ISO14000 certification
- Safety and quality certification task of export electromechanical products
- “3C” Certification
- Export permission of electronics

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e. Environment department inside enterprise

- Facing the environmental protection laws and regulations, enterprises have to servile the entire process, from the product design, the raw material to the production processing, and the transportation.
- Have a special department to manage and control the entire journey.
- Enterprise interior being established special department is helpful in the enterprise can from omni-directional manage oneself enterprise the environmental protection question, not merely limit environmental protection in product itself.

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(2) TECHNICAL NEED

a. ECO-DESIGN

- Minimize or avoid the use of toxic and hazardous substances
- Reducing energy consumption of electric and electronic products
- Decreasing noise
- The interchange ability of parts

b. System of call-back, reuse, and recycling of waste electronics

- **Government**

  China will promulgate an electronic products recycling act soon, this act will explicitly regulate that producers have responsibility to call-back and safely dispose, and retailers have responsibility to take back or collect and consumers have responsibility to deliver waste products to retailers.

- **Enterprises**

  - Use only well-proofed technology at the newest level
  - Install environment-friendly solution
  - Use the lower loan costs
  - Create new jobs for Chinese worker when manufacture parts of new recycling plants in China
  - Regulation for handling of electronic scrap

5. Capacity Building Plans

(1) Short term plan

a. Organizers of the trainings

Trainings should be initiated by various profession-associations. Related universities, research centers, and the government departments responsible for the work should be united to establish a training center.

b. Targets of the trainings

- responsible technical managers of electronics enterprises (including suppliers) ;
- designers in electronics enterprises (including supplier);
- persons in charge of import and export of electronic products in foreign trade departments.

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c. Training content

- the relative laws and regulations of China;
- capacities and skills for eco-design;
- influences of directives of EU to Chinese electronic products' exportation, the small and medium-sized enterprises' possible marginalization;
- production crafts and processing methods (PPMs);
- substitution of the 6 kinds of deleterious substances mentioned in RoHS directive;
- the callback modes and costs of electronics and electric appliance products;
- the relationship of EUP, WEEE and EUP directives;
- the possible ways for the electronics enterprises to satisfy the requests of the directives of EU.

(2) medium/longer term plan

a. The system constructions in medium /longer term plan

- Set up the training center
- Develop the omni-directional and multi-level educations of environment and safety in the country scope.

b. Prospects for medium/longer term plan

- The sustainable development strategy is the basic policy for modernization in China;
- The development of economy and foreign trade must be coordinated with the environment protection;
- The new production crafts and the processing methods must be promoted;
- The following trainings should be strengthened to the production enterprises:
  - strengthen the green management training;
  - carry on the eco-design, skill training;
  - implement green marketing education

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THANKS!