Press Release

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Trend Report No. 5: Industrial park profiles in China

Industrial park profiles in China

- **Development of industrial sites according to plan**
- **Over 6,600 industrial parks in China boost economic growth**
- **State models regulate future planning**

Sustainable development, "circular economy" and integrated production facilities play a strategic role in the Chinese economy. Numerous new laws have been introduced in order to implement what has long since been standard in western countries: conservation of resources, environmental protection, safety. The 7th AchemAsia from 14-18 May 2007 will bring together around 500 exhibitors from 25 countries and 20,000 visitors to discuss this topic.

Industrial parks in China are operated at the national, provincial and local level. The number of parks exceeded 6,600 in 2006. The parks that are operated at the national level are the most attractive to foreign investors. The political conditions are more favorable, and their management commissions have the same rights as city governments, which can make it easier and faster to set up operations at the sites.

Depending on the focus and development goals, the industrial parks in China can be divided into six categories: Economic and Technological Development Zones (ETDZs), Free Trade Zones (FTZs), New and High-Tech Industrial Development Zones (HIDZs), Border Economic Cooperation Zones (BECZs), Export Processing Zones (EPZs) and Tourist and Holiday Resorts (THRs).

Two of the main government models which are used to develop and manage the sites are the "integrated administration committee model" and the "autonomous administration committee and development company model". In the first of these two models, the administration committee is responsible for general administrative work, government agency administration and management of investors, infrastructure, utility services and disposal. When the second model is used, utility services and disposal are the specific task of the development company. The key management metrics for industrial development at the parks are annual new investment and the capital to space utilization ratio, which are defined by the city government.

Industrial, commercial, residential, recreational and leisure areas are integrated in the Economic and Technological Development Zones (ETDZ). Due to their function as industrial and residential sites, they often exclude investors from the heavy industry sector (e.g. petrochemicals). Instead, they concentrate on high-tech production, for example electronics, the food industry and mechanical engineering. Heavy industry can sometimes be located at so-called satellite zones, for example at the TEDA chemical industrial park.

The first ETDZs were set up during China's second phase of political liberalization between 1984 and 1992. 14 cities on the east coast and on the island of Hainan were granted the right to establish such zones for foreign investors. Following success in the coastal regions, this development strategy was introduced in central and western China between 2000 and 2002, when the central government allowed every province, autonomous region or city there to request that a qualified provincial development zone be upgraded to the status of a national one. According to the China Association of Development Zones (CADZ), there were 56 Economic and Technological Development Zones at the beginning of 2006. Figure 1 shows the geographical distribution of the zones.

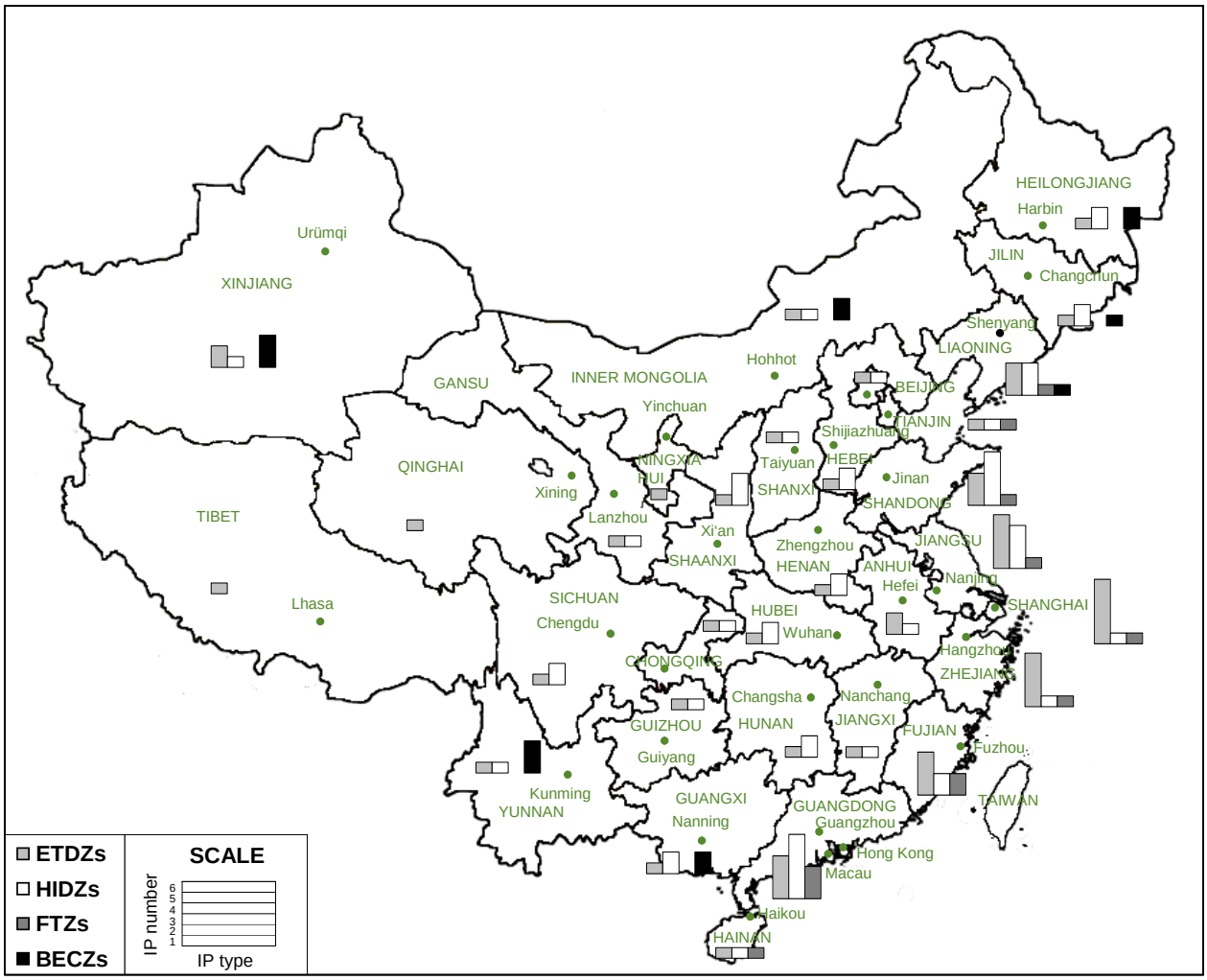

Fig. 1 Number and distribution of the different categories of industrial parks in China

The second type of industrial park, the New and High-Tech Industrial Development Zones (HIDZ), is based on the ETDZ concept, but it concentrates on attracting foreign investors from industries which have a significant focus on science and technology such as

electronics, biotechnology and materials technology[a]. Economic activity is directed at domestic and overseas markets, and it includes R&D, commercialization and industrialization in the high-tech industry. Due to the strong links to the R&D community and the need for highly-qualified staff, universities of applied science, research institutes and science parks are integral parts of the High- Tech Development Zones. Between 1988 and 1992, 53 national HIDZs were approved by the Chinese State Council. The location of these sites is shown in Fig. 1.

The first Free Trade Zone (FTZ), which is the third type of industrial parks in China, was established in 1986. All of the planned 15 free trade zones are now in operation, and all are located on China's east coast. They offer favorable profit tax rules, duty-free goods transfer, foreign exchange privileges and freedom from export quotas in order to facilitate international trade. The companies at these parks specialize in trade, warehousing, distribution, value-added for re-export and banking services.

The remaining categories are the EPZs, BECZs and THRs. The EPZs are closed zones which are administered by the customs authorities, or they are part of the ETDZs and FTZs. They are intended to promote value-added activities for export as well as logistics and warehousing services. By the year 2000, the State Council had approved 15 EPZs. Most are located along the east coast.

The establishment of BECZs began in 1992, and there are currently 14 of them. As you can see in Fig. 1, the BECZs are situated in open cities on the borders in central, western and northern China. The BECZs are focused on development of cross-border trade, the establishment of good relations with neighboring countries and the support of economic development in minority regions.

THRs concentrate on strengthening tourism and attracting foreign investment in tourism projects. 11 THRs have been approved by the State Council as of 2006.

Alongside the multi-functional development zones, the chemical industrial parks (CIPs) are special zones which focus on one industry, namely chemicals. CIPs can be set up as satellite sites at ETDZs as described above, or as separate, independently operated industrial parks. The main goals include restructuring and improvement of technological standards in the Chinese chemical industry and promotion of regional economic development by making investment more attractive to foreign and domestic companies. Production plants which do not comply with new environmental protection standards are also sometimes relocated to areas outside the cities. In spite of the more specific focus, the general development goals and the administrative setup are similar to the other types of industrial parks. A study conducted by the China Petroleum and Chemical Industry Association (CPCIA) in 2004 listed 17 CIPs in China. Shanghai CIP, Nanjing CIP und TEDA CIP are national level parks, and the others are managed at the provincial level. Most CIPs are in the eastern coastal regions.

Eco industrial parks (EIPs) act as pilot projects for a sustainable economy

Sustainable development, "circular economy" and integrated production facilities play a strategic role in the Chinese economy. Numerous new laws have been introduced in order to implement what has long since been standard in western countries: conservation of resources, environmental protection, safety. The 7th AchemAsia from 14-18 May 2007 will bring together around 500 exhibitors from 20 countries and 20,000 visitors to discuss this topic.

Explosive economic growth, a higher standard of living, population growth and an unbalanced regional distribution of resources coupled with the lack of a strategy for

[a] Complete list of high-tech-industry sectors available at the State Science and Technology Commission

sustained development have resulted in regional shortages of energy and water, significant pollution and damage to the environment. The government has recognized the problem, and in 2002 it adopted the “Circular Economy (CE)” as its new, far-reaching development strategy. It is hoped that this approach will provide a basis for continual economic growth by making more efficient use of natural resources and by increasing the ecological efficiency of production and consumer consumption.

The State Council gave an additional indication that the “Circular Economy” will play an important role in the country’s future economic development when it transferred responsibility for driving the Circular Economy forward from the State Environmental Protection Administration (SEPA) to the National Development und Reform Commission (NDRC)[b].

Since 2002, China has been phasing in the circular economy at three levels: at the micro and company level as cleaner production (Cleaner Production Promotion Law 2003), at the meso or industrial park level in the form of Eco Industrial Parks (EIPs) and at the macro level as eco cities and provinces.

At the industrial park level, an environmental research institute with support from the site management team develops an eco plan for the park, which takes regional constraints and opportunities into account. These plans are not limited to issues related to industrial production. They focus mainly on inner- and intra-company engineering issues, for example energy cascading, shared use of infrastructure, exchange of by-products and waste recycling, as well as on economic incentives such as subsidies for environmental protection investment and resource pricing strategies.

Once the eco plan has been approved by SEPA, the park is given “EIP” status. There were 16 Eco Industrial Parks in China in May 2006 (Table 3). SEPA published the Standards for EIPs in China, and it is expected to start assessing implementation of the eco plans in the near future.

Despite the success of some pilot projects (e.g. TEDA and Dalian development zone), progress has been slow because insufficient attention has been given to the economic aspects. In order to achieve more efficient implementation, a slow paradigm change is currently under way. Instead of being viewed as an incentive to recycle, “circular economy” will become a strategy for sustainable development evolving the industrial structure, developing new technology and reforming industrial policy[b]. The draft Circular Economy Promotion Law is expected to go into effect in 2007 or 2008.

[b] Yuan, Z., Bi, J., Moriguichi, Y. 2006. The Circular Economy – A New Development Strategy in China. Journal of Industrial Ecology, Vol. 10, No. 1-2. S. 4-8.

Table 1 Eco industrial parks including corporate groups and development zones in China[c]

No.	Location	Industrial Focus	Approved
1	Guigang, Guangxi (Guitang Group)	sugar, alcohol, fertilizer and paper factory	2001
2	Nanhai Eco-Industrial Park, Guangdong	environmental S&T consulting, production of environmental protection technology, production of ecological products, recycling industry	2001
3	Baotou Aluminium (Group) Co., Ltd., Inner Mongolia	aluminum industry	2003
4	Changsha Huangxing Industrial Park, Hunan		2003
5	Lubei, Shandong (Lubei Group)	chemicals, construction materials and light industry	2003
6	TEDA, Tianjin	electronics, machinery, pharmaceuticals and foodstuffs, ISO 14001	2004
7	Fushun Mining Group, Liaoning	coal mining and methane recovery	2004
8	Dalian ETDZ, Liaoning	petrochemicals, electronics, telecommunications, etc. ISO 14001	2004
9	Suzhou High-Tech Development Zone, Jiangsu	telecommunications, fine chemicals, precision mechanics and new materials, ISO 14001	2004
10	Suzhou Industrial Park, Jiangsu	IT, automotive industry, logistics, ISO 14001	2004
11	Yantai ETDZ, Shandong	electronics, textile fiber, plastics food and biomedical, ISO 14001	2004
12	Guiyang Kaiyang Phosphorus Chemical Engineering Group, Guangxi	mining coal with high phosphor content	2004
13	Weifang Ocean Chemical High-tech Development Zone, Shandong	chemical and high-tech industry	2005
14	Zhengzhou Shangjie Industrial Park, Henan		2005
15	Baotou Iron and Steel (Group) Co., Ltd., Inner Mongolia	iron, steel and rare earth metal industry	2005
16	Shanxi Antai (Group) Co., Ltd., Shanxi	coal washing, coking plant, pig iron, construction materials and the electric power industry, ISO 14001	2006

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[c] Salonen, T., Representation of the Chinese data from www.sepa.org.cn, 31.08.2006