

The Quality Control System in a Growing Construction Industry in China

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Asian Forum for

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Part One:

A Growing Construction Industry

Part Two:

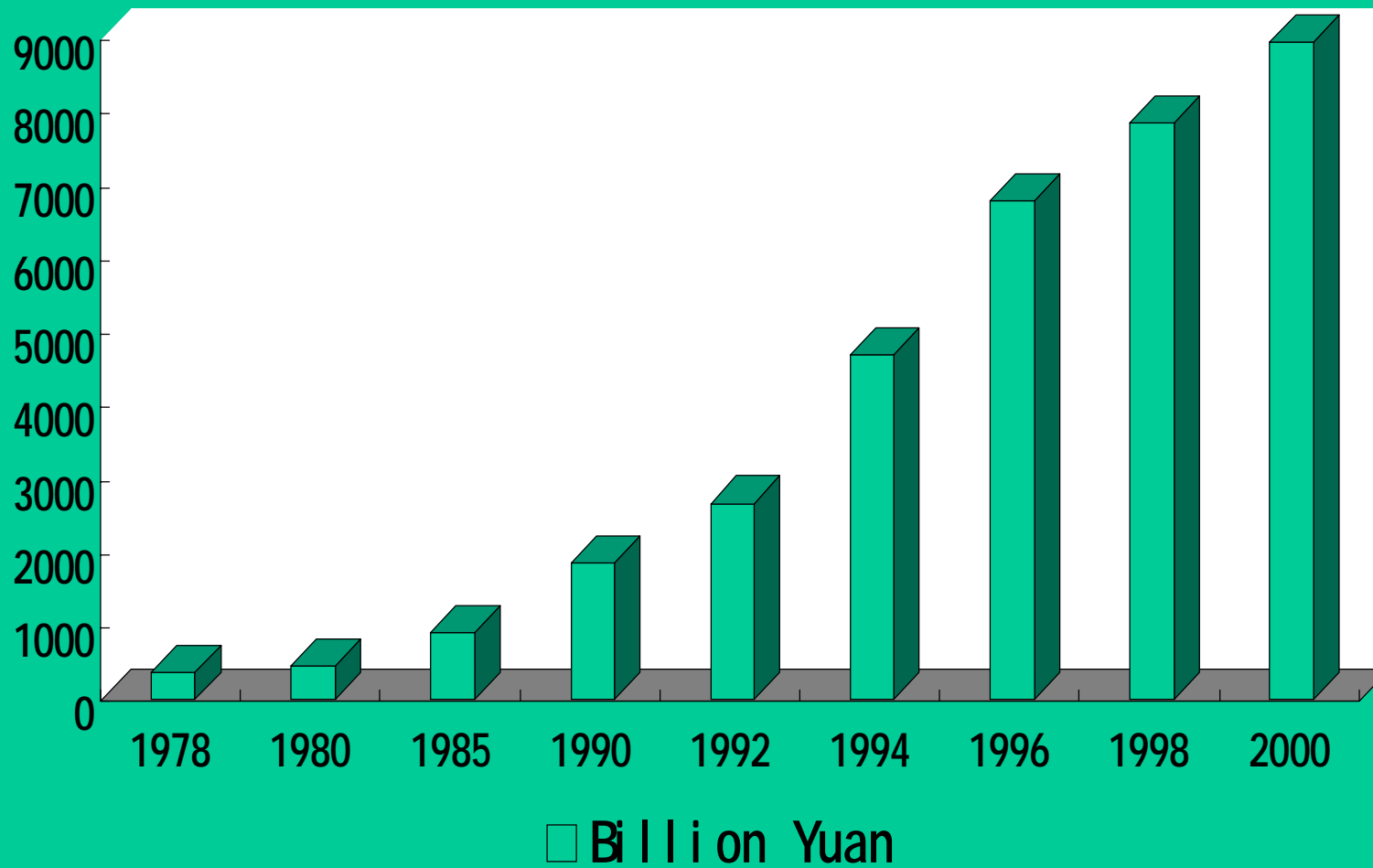
Standardization for Engineering Construction

Part Three:

Quality Control in the Construction Industry

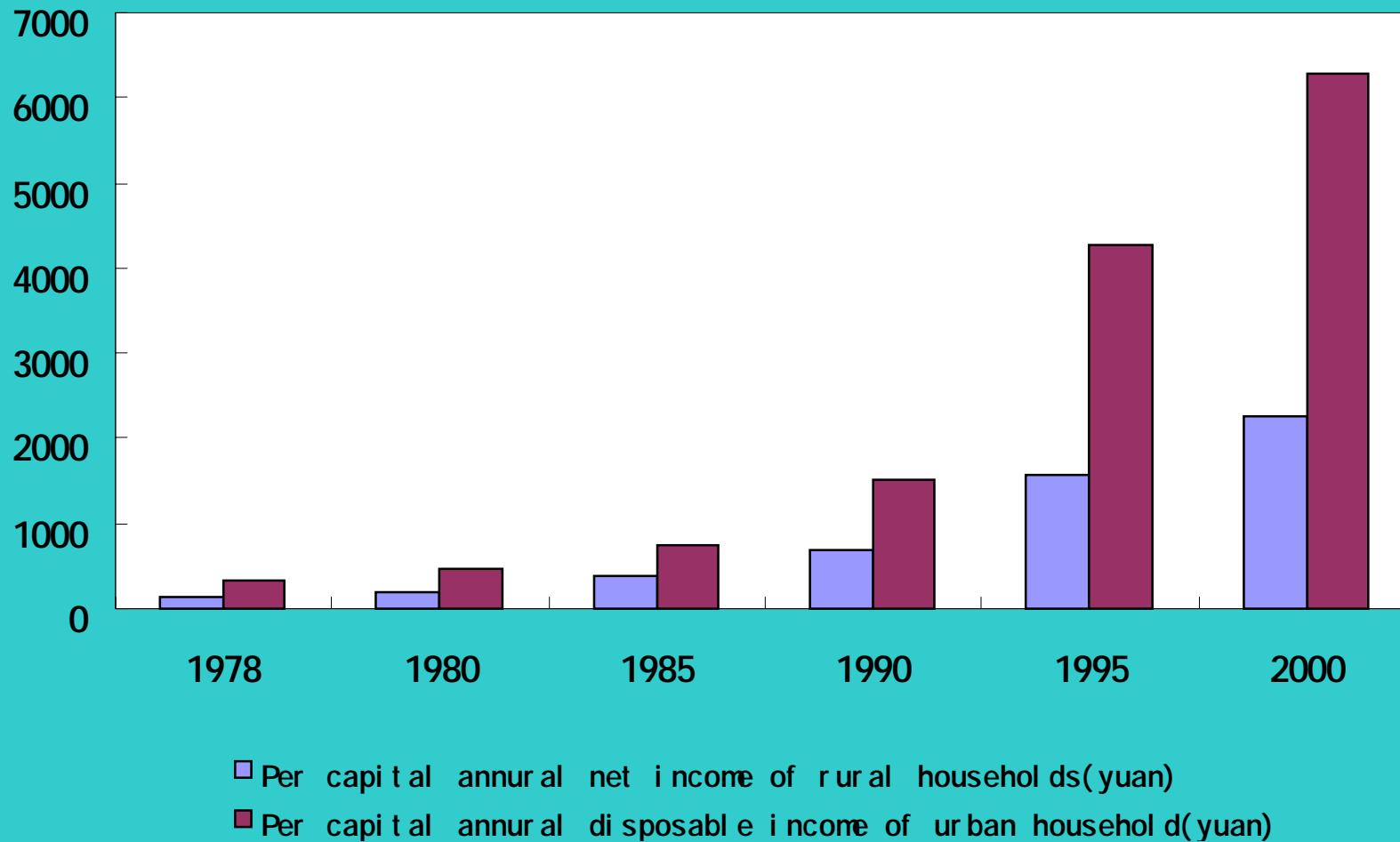
Part One: A Growing Construction Industry

The increase of GDP, 1978 - 2000



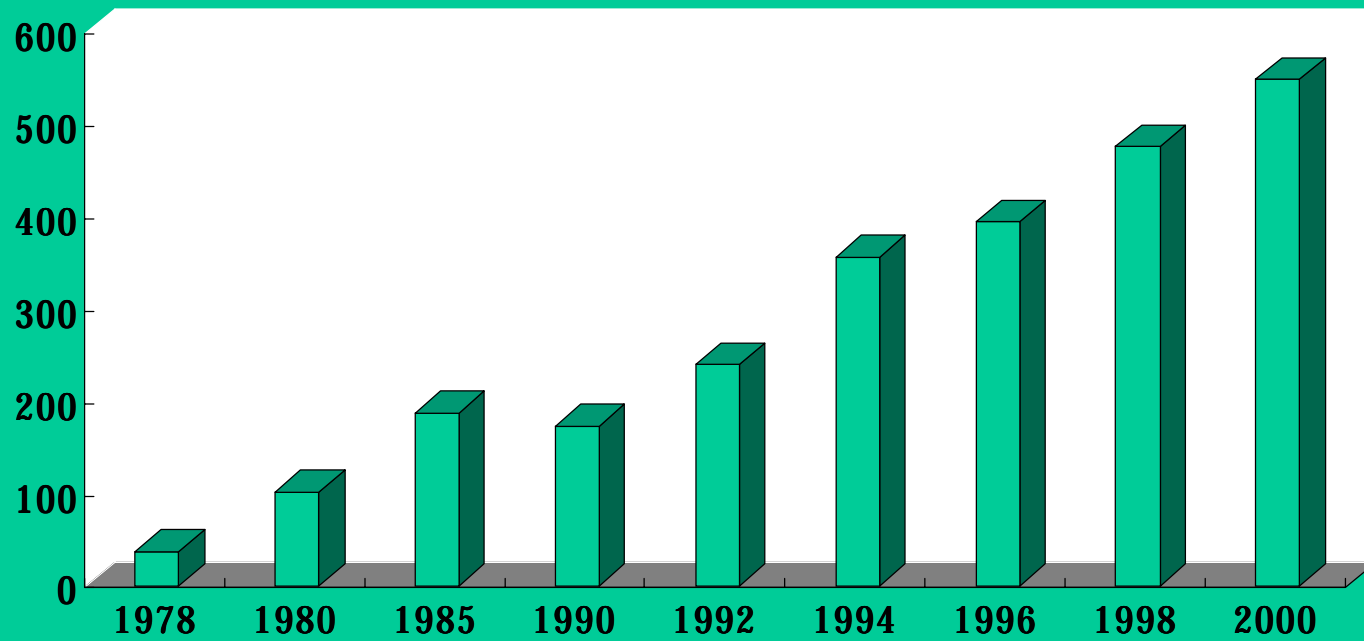
Part One: A Growing Construction Industry

The increase of household income in China



Part One: A Growing Construction Industry

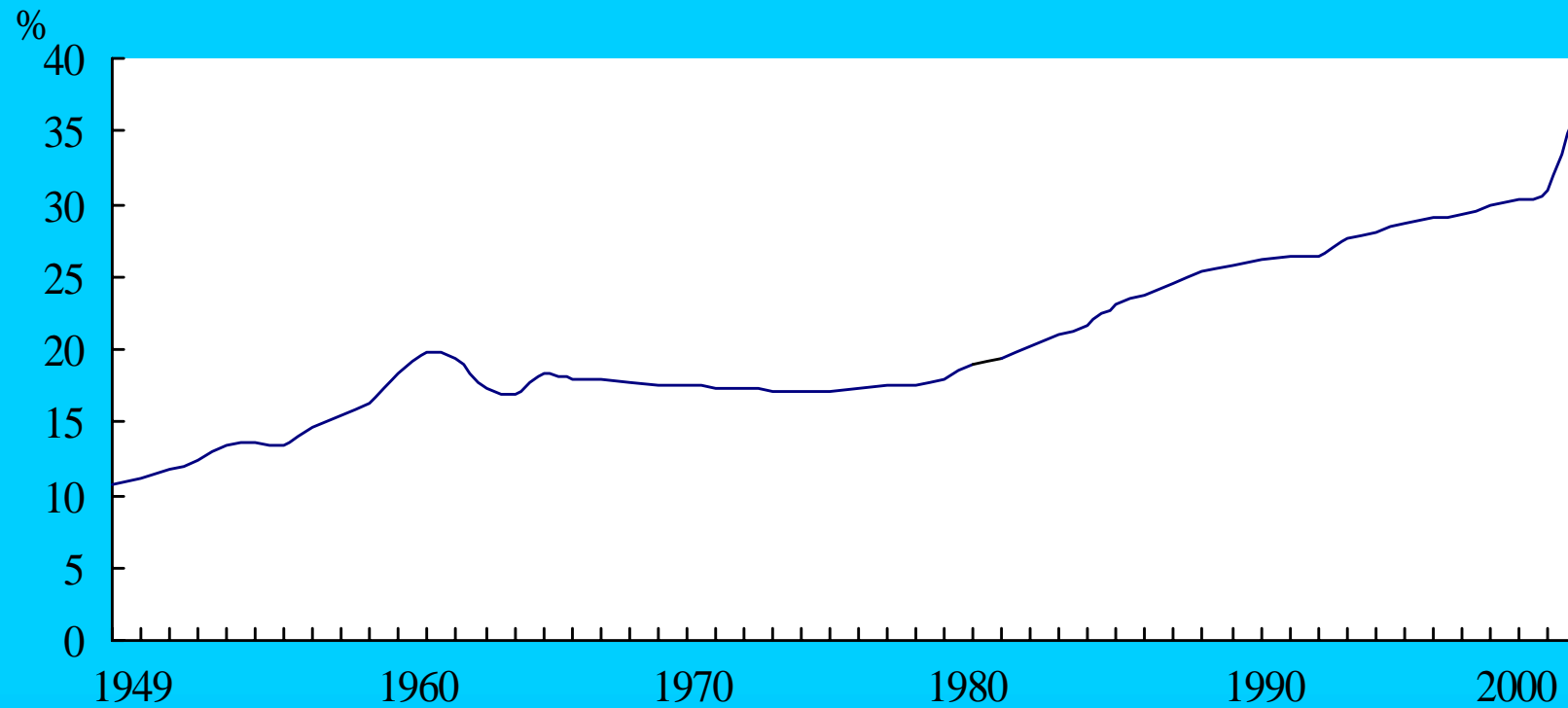
Annual housing construction in urban areas, 1978-2000



□ Million square meters

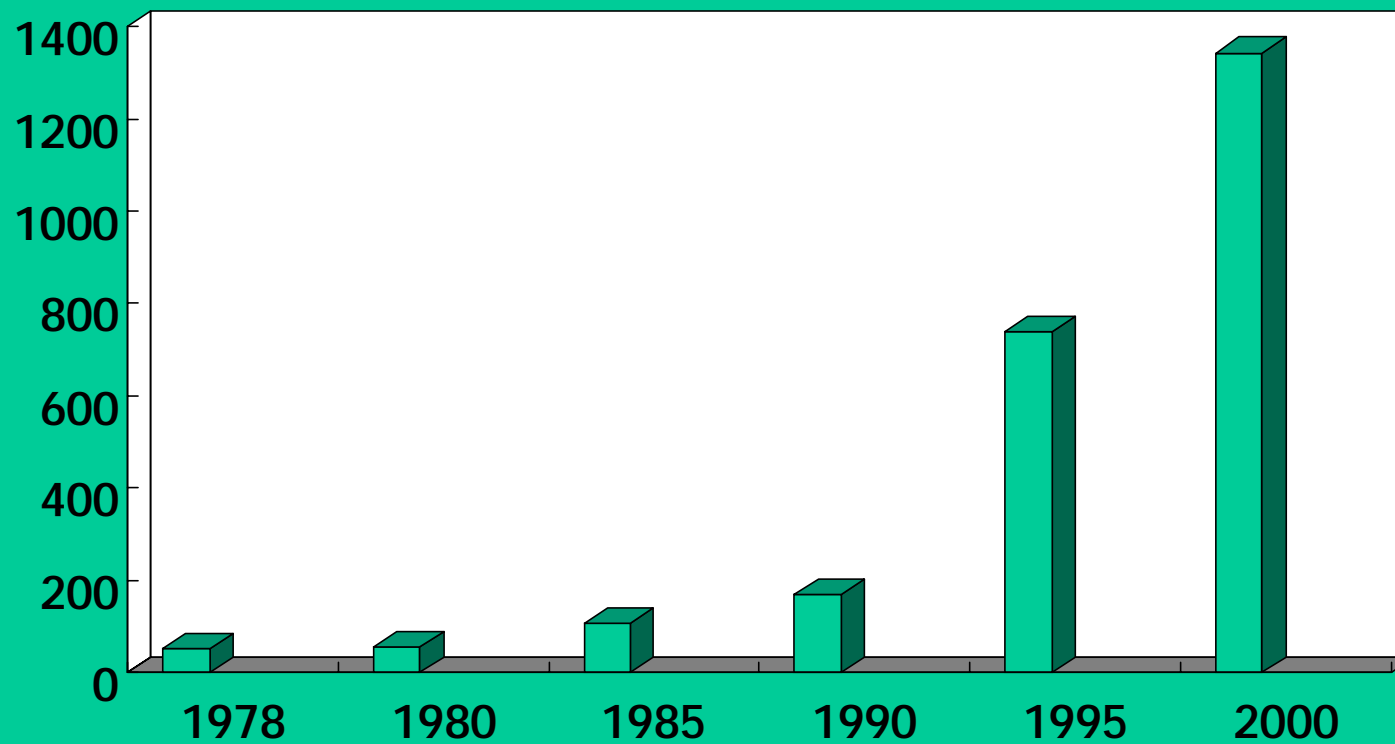
Part One: A Growing Construction Industry

Urbanization level, 1949—2000, China



Part One: A Growing Construction Industry

Investment in capital construction, 1978-2000



Part One: A Growing Construction Industry

The gross output value of the construction industry

Year	Output (billion)	Its share in GDP
1980	34.7	4.3%
2000	1678	6.6%

The construction enterprises and labor force

Year	Company	Employee (million)
1980	57,404	9.83
2000	97,263	27.41

The consulting and design institutes

Year	Institute	Employee
2000	10,753	635,198

Part Two: Standardization for Engineering Construction

There are four levels of civil engineering standards in China:

national,
sectoral,
Local,
enterprise.

There are two categories of civil engineering standards in China:

compulsory,
recommended.

Part Two: Standardization for Engineering Construction

The technical capability in making standards for
civil engineering construction:

1,300 groups,
30,000 individuals.

China standardization Association for
Civil Engineering Construction:

36 technical committees

Part Two: Standardization for Engineering Construction

Standardization activities in China:

there are more than 3,200 civil engineering standards.

The Regulation on the Implementation and Monitoring of the compulsory
Standards for Engineering Construction,

August 25, 2000

International standardization activities:

chairing 19 ISO technical committees,

Chairing 39 sub-committees.

Part Two: Standardization for Engineering Construction

Future actions:

- To develop recommended standards,
- To promote the standardization level, and adopt advanced international standards
- To provide consulting services to enterprises
- To promote the awareness of importance of standardization
- To conduct human resources training
- To strengthen the international exchange in concrete structure, steel structure, wood structures, anti-earthquake structures and concrete block systems.

Part Three: Quality Control in Construction

Legal environment:

1. The Construction act of the People's Republic of China, November 1, 1997.
2. The Regulation on the Quality Management for Engineering Construction, January 30, 2000.
3. The Regulation on the Prospecting and Design Management for Engineering Construction, September 25, 2000.

Part Three: Quality Control in Construction

Quality problems:

- Low quality of average commercial housing buildings, especially those for relocated households;
- Potential structural risks of the buildings built without earthquake engineering measures in the 1950's and 1960's, and buildings built without proper management in 1980's;
- Great potential quality risks of buildings constructed without permission, design and quality control in the intersections between urban and rural areas;
- Potential risks of some old bridges because of poor maintenance and overusing;
- Structural destruction during owners' decoration of their apartments built with brick-concrete structures;

Part Three: Quality Control in Construction

- Indoor environmental pollution caused by the use of disqualified building and decoration materials;
- Poor quality control management, especially at the county and township levels;
- Lack of training of professionals.

Part Three: Quality Control in Construction

Future actions:

1. To improve the management of construction projects in towns and villages so that all construction activities can be undertaken according to the laws and regulations;
2. To set up regular inspection systems to evaluate existing buildings, and request the owners to consolidate their buildings if necessary;
3. To make new management methodologies and new qualification standards for the inspection institutions to improve their inspection capabilities;
4. To carry out new measures, such as those for the examination of construction drawings, provision of quality warranties, and implementation of compulsory standards;

Part Three: Quality Control in Construction

- To establish credit evaluation system for construction enterprises, announce misbehaved enterprises publicly, and set up an effective system for quality reporting, response and supervision;
- To establish compulsory training system for technical staff members, and provide trainings in the disciplines of compulsory standards implementation and operation skills.
- To fulfill the commitments in WTO and open further the construction market, encourage international competition and improve the overall construction quality.

Welcome to the Great Wall





The Temple of Heaven



The Peking Roast Duck



The Night in Shanghai



The China Garden in Hangzhou



Jiu Hua Mount, Anhui Province,

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China's Commitments to WTO in the Field of Consulting Services

1. Architectural services
2. Engineering services
3. Integrated engineering services
4. Urban planning services
(except general urban planning)

1. Only in the form of joint ventures;
2. With foreign majority ownership permitted;
3. Within five years after China's accession to WTO, wholly foreign-owned enterprises will be permitted;
4. Foreign service suppliers shall be registered.

China's Commitments to WTO in the Field of Real Estate

Real estate services involving own or leased property	Wholly foreign-owned enterprises are not permitted for high standard real estate projects, such as apartments and office buildings, but excluding luxury hotels
Real estate services on a fee or contract basis	Only in the form of joint ventures, with foreign majority ownership permitted

China's Commitments to WTO in the Field of Construction

<p>Construction and related engineering services</p>	<ol style="list-style-type: none">1. Only in the form of joint ventures, with foreign majority ownership permitted.2. Within three years after China's accession to the wholly foreign-owned enterprises will be permitted.3. Wholly foreign-owned enterprises only undertake following four types of construction projects:<ul style="list-style-type: none">-- Construction projects wholly financed by foreign investment and/or grants;-- Construction projects financed by loans of international financial institutions and awarded through international tendering according to the terms of loans;-- Chinese-foreign jointly constructed projects with foreign investment equal to or more than 50 per cent;
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China's Commitments to WTO in the Field of Construction

<p>Construction and related engineering services</p>	<ul style="list-style-type: none">-- Chinese-foreign jointed constructed projects with foreign investment less than 50 per cent but technically difficult to be implemented by Chinese construction enterprises alone;-- Chinese invested construction projects which are difficult to be implemented by Chinese construction enterprises alone.
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China's Commitments to WTO in the field of Environment

1. Sewage services
2. Solid waste disposal services
3. Cleaning services of exhaust gases
4. Noise abatement services
5. Nature and landscape protection services
6. Other environmental protection services
7. Sanitation services

Foreign services suppliers engaged in environmental services are permitted to provide services only in the form of joint ventures;

With foreign majority ownership permitted.