

Water Industry Development in China

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A. HHO in Brief
(China Water Investment Co., LTD)

HHO is a national corporation specialized in water investment and management, co-founded by the Bureau of Comprehensive Development of the Ministry of Water Resources and other strategic investors, which have RMB1.2 billion in registered capital.



Business scope covers water project investment, operation and management as well as the provision of other water related value-added services:

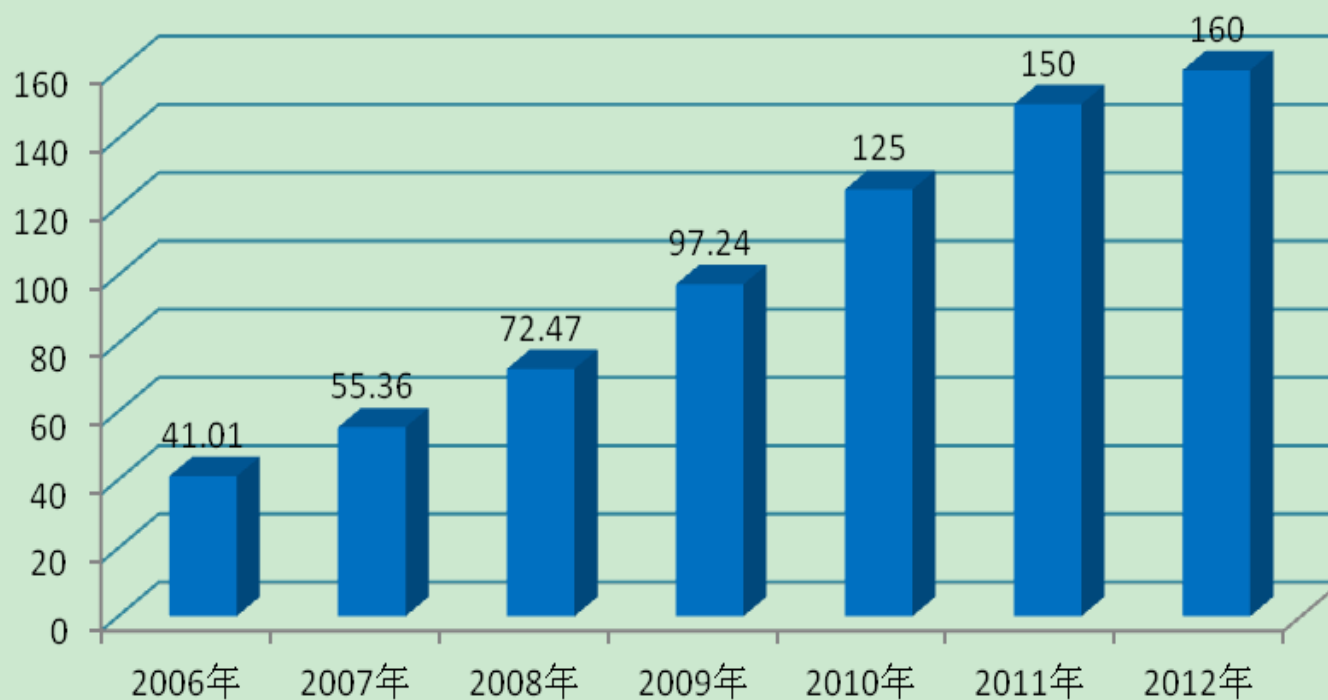
- development & supply of raw water;
- water transfer;
- urban water supply & drainage;
- brackish water desalination;
- sludge treatment;
- garbage disposal.



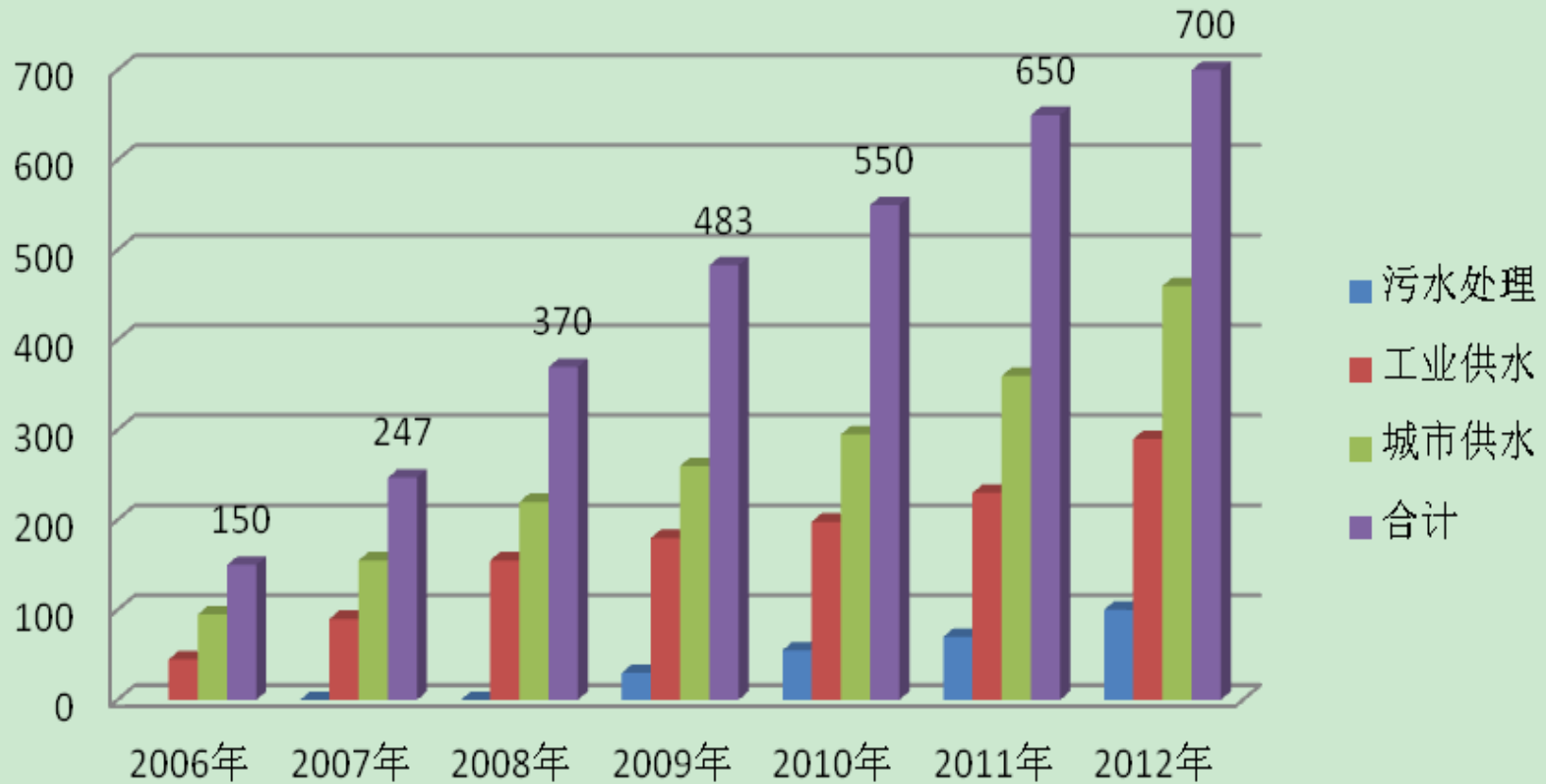
- Growing quickly in last 6 years;
- Total assets more than RMB 16 billion and net assets RMB 5.7 billion;
- Operational in 40 cities across China;
- Sewage treatment capacity: 6.5 million m³/d;
- Garbage disposal capacity: 1200 t/d;
- Sludge treatment capacity: 80t/d.



Growth of total assets during 2006 to 2012 (in RMB 100million)



Growth of Water Supply and Wastewater Treatment (in 10,000 t/d)





B. Water Industry in China

- **Rapid growth since water industry reform in 2003**
- **Huge market potential**
- **Great opportunities for enterprises with different expertise**

Major opportunities in next 5 years:

- upgrading of existing plants;
- extension of network;
- sludge treatment;
- use of recycled water.

Investment demand in next 5 years:

- water supply: RMB220 billion
- sewage treatment: RMB700 billion
including sludge treatment: RMB150 billion;
- Use of recycled water: RMB 30 billion

- In 2007, Standard on quality for drinking water was enacted, water quality indicators increased from 35 to 106.
- With the development of membrane technology, sludge dewatering and other technologies, the industry of sewage, reuse water and sludge recycling has developed rapidly, water recycling and desalination have been on the fast track.

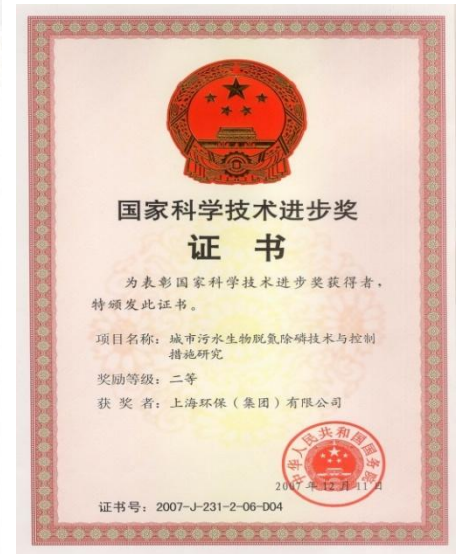


C. HHO Development Strategies

Objective: transition to a modern corporation by technical upgrading and enhancing core competitiveness through cooperation with many enterprises.



- Holds 17 patented technology in water treatment, sewage and sludge disposal;
- Several subsidiaries recognised as high-tech enterprises



Cooperation in foreign enterprises:

- Joint venture with ORICA(Australia), 2010
- UK-China Innovation Forum on Advanced Water Technology, 2012
- Desalinisation with BEFESA(Spain), 2012.



北京中澳澳凯水处理技术 设备有限公司

中国水务投资有限公司与澳大利亚ORICA公司组建合资公司，共同在中国市场推广MIEX深度水处理技术。

MIEX技术的概念

MIEX®树脂是一种粒径约为180微米带磁性的聚合物，由澳大利亚联邦科学与工业研究院、南澳水务局和Orica公司的专家自20世纪70年代开始经过30多年的研究，共同开发出来的一项用于水处理的专利技术，并从2000年开始进行商业应用。该项专利技术已多次获得国际性的饮用水处理优秀科技发明奖，被国际专家誉为“未来50年饮用水处理最好的模式”。

MIEX®技术的特点

(1) 去除DOC和其他无机污染物

MIEX®技术可有效去除小分子量DOC，从而控制消毒副产物的产生。

(2) 去除颜色、异味功能独特

MIEX®技术可以有效去除水中颜色，改善水的气味和口感。

(3) 改善絮凝效果，提高矾花沉降速度，降低处理后水的浊度

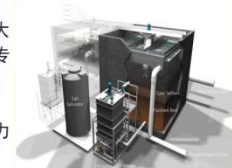
应用MIEX®技术可以大大改善絮凝和沉降效果，大大降低处理后水的浊度，降低水中藻的含量。在蓝藻严重爆发的时候，MIEX®技术对絮凝的改善作用，提高絮凝过程去藻的效果，可有效防止后续滤池的堵塞。

(4) 提高后续处理工艺的效率

应用MIEX®技术作为预处理，可以大大改进后续处理工艺的效率。如降低絮凝剂使用量，减少淤泥产量，提高过滤效率等。

MIEX®技术与活性炭结合使用去除异味时，可大大减少其他污染物对活性炭的消耗，使活性炭可以专一用来去除异味，从而大大减少活性炭的使用量，保证最有效、经济地去除异味。

MIEX®技术与膜结合使用，可以降低通过膜的压力，减少反冲洗次数，延长膜的使用寿命。



**Looking forward to wider exchange
and cooperation with European
counterparts. Thank you.**

