

Session 2.4

Innovative Solutions for Wastewater Treatment: Case of China

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Development Problem

- China has been suffering from clean water shortage and wastewater pollution.

The Solution

- Treatment of industrial wastewater by electron beam accelerator and biological methods in collaboration with the IAEA
 - **OBJECTIVE:** To develop an efficient and environmentally sound process for treatment of industrial wastewater containing toxic and refractory pollutants by electron beam irradiation in combination with conventional biological methods.
 - **ACTIVITIES:** The IAEA had provided one training course, four expert missions, two scientific visits and one fellowship. All these activities were largely helpful to promote the industrial application of radiation technology in wastewater treatment in China.

LOCAL ORGANIZATIONS:



TSINGHUA UNIVERSITY
Institute of Nuclear and New
Energy Technology

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A. Prof. He Shijun
A. Prof. Chu Libing



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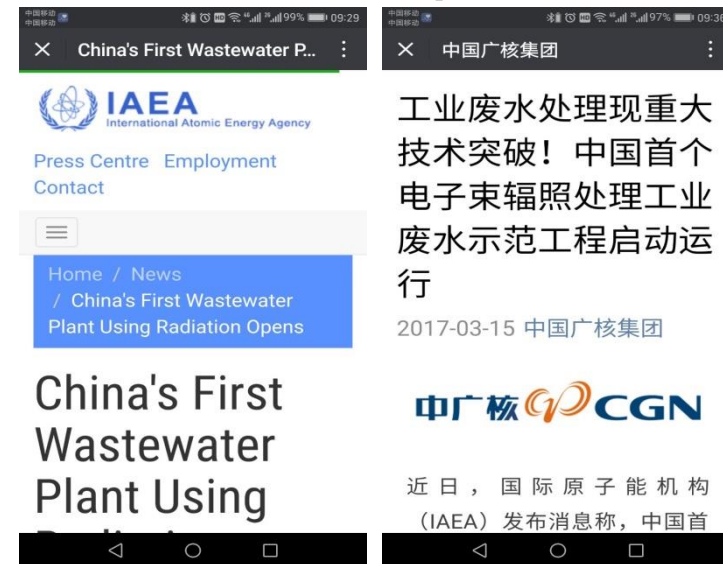
Achievements

- China's first industrial-scale wastewater treatment plant has been established in the city of Jinhua, using electron beam irradiation in combination with conventional biological methods.
- The current capacity is 1500-2000 m³/d with one injector. The running costs, including energy consumption, chemicals and workers salaries, is **0.35 US\$/m³** for water reuse.

Field Test



News Reports



Future Plan

- Tsinghua University has already set up a joint international research center focused on EB Technology Environmental Application.
- To decompose the pharmaceutical antibiotics and antibiotic resistance genes in Xinjiang province.
- To purify the paper mill and other refractory industrial wastewaters in Zhejiang and Jiangsu province.

Field Test



Acknowledgements

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- 国际科技合作专项-电子加速器辐射处理工业规模废水的关键技术引进与研发 (2011-2014 , 批准号：2011DFR00110)

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