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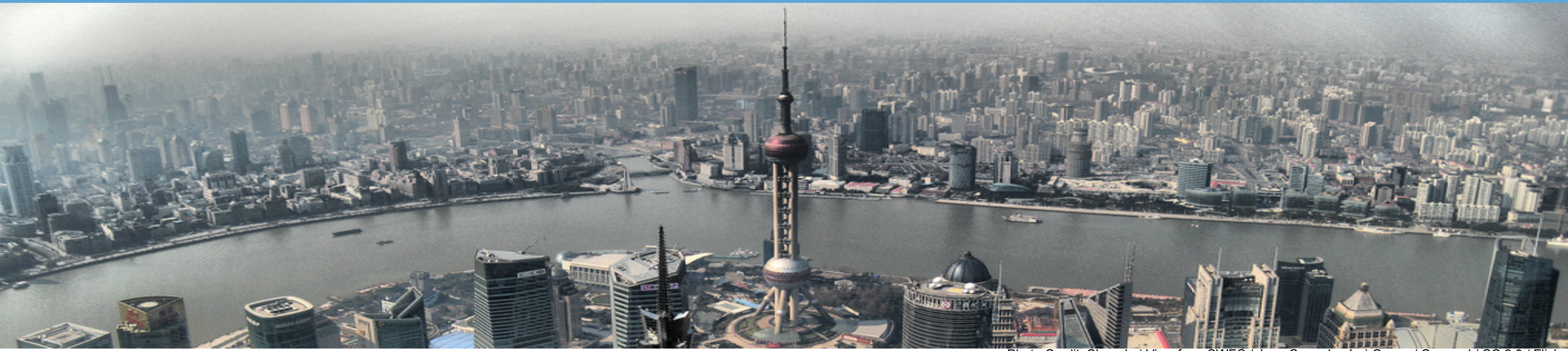

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MARKET INSIGHT

China Municipal Wastewater Market:
Private Player Opportunities & Strategies, 2015-2020

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Details on over 897 wastewater & reuse plants in development and under construction:

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- Project Status
- Online Year
- Contract model
- Contract Period
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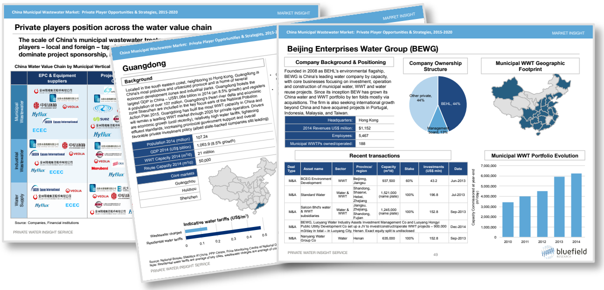
Spreadsheets included with report purchase.

***China Municipal Wastewater Market:** Private Player Opportunities & Strategies, 2015-2020* is part of Bluefield's Private Water Insight Service.

Bluefield's Private Water Insight Service provides clients with research and analysis on the private sector's growing role in the ownership & management of water production and distribution, including the tracking of private utilities, independently owned water systems, concessions, and investment strategies.

Focus Report Exhibits



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Market Insight Key Features

Key Features

- The report includes detailed analysis of China's policy drivers and barriers to implementation, that are shaping opportunities for foreign market entrants.
- Province-by-province analysis enabling firms to pinpoint regional hotspots and their receptiveness to private water investment for business development.
- Access to the most complete and up-to-date database of leading private players' project portfolios for wastewater treatment plants.
- In-depth competitive analysis of company value chain positioning, market-share, and growth strategies via M&A, partnerships, and greenfield development.
- Growth prospects for foreign players including regulatory hurdles, project pipelines, and competitive positioning.

Key Questions Addressed

For Private Investors and Independent Water Providers:

- What opportunities does China present for private investment and independently owned projects?
- Which markets open to outside players, or tightly controlled by municipalities and state-participated firms?
- Which domestic and international players are at the industry forefront and how are they differentiated?
- Are China's leading players positioned for global expansion?

For Integrated Water EPCs, Utilities, and Policymakers:

- What are the key challenges to implementing environmental policies driving China's water infrastructure build-out?
- How are opportunities segmented by EPC, service contracts, and long-term concessions?
- Which contract models (e.g. BOT, TOT, BOO, JV) are proving to be the most successful?
- What is the impact of recent policy initiatives growth from 2015 to 2020?

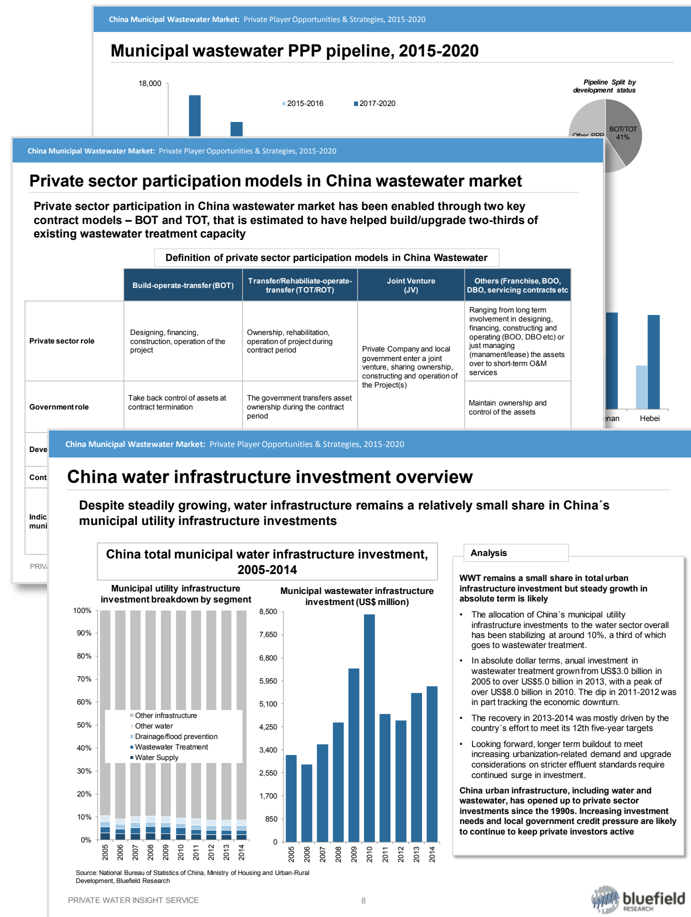
For Water Technology and Service Suppliers:

- Are leading EPCs and investors positioning as technology players or as partners with foreign players?
- What are trends for long-term service contract opportunities?
- Have companies with more advanced offerings gained an advantage?

Market Insight Takeaways

Bluefield Takeaways

- **China stands out as epicenter for private water.** The rapid growth of build-operate-transfer (BOT) contracts in China's wastewater sector has firmly positioned the country as the world's largest market for private water investment. The country now accounts for over 50% of privately financed water treatment capacity additions in emerging markets over the last decade– approximately 160 million m^3/day. More than two-thirds of China's wastewater treatment capacity is now managed by private firms.
- **Top-tier firms scale domestically, position for international expansion.** Roughly one-quarter of China's wastewater market– 30 million m^3/day across 500 facilities– is operated by 15 companies that are strengthening their positions through M&A and geographic expansion domestically and internationally. Led by Beijing Enterprises Water Group, Beijing Capital, and China Everbright International, these companies have differentiated themselves along value chain – technology supply, EPC services, and utility operations.
- **Market scale too big for foreign firms to ignore.** A host of globally diversified foreign firms from Europe and Asia are gaining entry into the China's private water sector. These firms have taken various routes to market, including partnerships, third-party service offerings, and supply chain positions that leverage their technology and operations experience. Veolia, Suez, Sound Global, United Envirotech and Berlinwasser China Holdings (Metito) are among the country's top international players, leveraging operational experience and advanced treatment technology offerings.
- **Tightening regulations highlight new markets of opportunity.** China's recently announced 2015-2020 Action Plan for Water Pollution Prevention, and a more environmentally progressive 13th Five Year Plan, point to a more dynamic wastewater treatment market with significant potential for growth beyond the planned US$6 billion in annual investment. Bluefield has identified ten provinces that stand out as hotspots for new build, including private water opportunities -- led by Beijing, Guangdong, Henan, Liaoning and Shandong – with several more interior provinces aiming for greater compliance.



Data Appendix

Get the most from Bluefield's primary research capabilities with in-depth analysis of market drivers, trends, and strategies backed by bottom-up data on company assets, equity stakes, M&A activity, and more.

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Key announced M&A in China water & wastewater treatment, 2010-2015

Date-Year	Year	Status	Acquisition	Sector	Municipal WWT nameplate capacity (m3/day)	Stake	Buyer	Province	US$ m
Jun-15	2015	Closed	Goldtrust Water Holdings	Water & WWT	725,000	100%	China Water Affairs	Guangdong, Shaanxi, Shandong, Jiangsu	
Sep-12	2012	Closed	6-year income from Beijing Water Plant (No.9 water plant) ending 31st Dec 2018	Water		100%	Beijing Enterprises Water group	Beijing	10
Sep-12	2012	Closed	BE Water (Weifang)	Water & WWT	40,000	100%	Beijing Enterprises Water group	Beijing	1
Sep-12	2012	Closed	Beijing Anling (including No.10 water plant)	Water & WWT	1,000,000	34%	Beijing Enterprises Water group		1
Sep-12	2012	Closed	BE Water (Hainan)	Water & WWT	250,000	90%	Beijing Enterprises Water group	Hainan	2
Feb-13	2013	Closed	7 WWT companies in Guangdong province	WWT	580,000	100%	Beijing Enterprises Water group	Guangdong	8
Jun-13	2013								
Jul-13	2013								
Sep-13	2013								
Dec-14	2014								
Jul-15	2015								
Dec-14	2014								
Jul-14	2014								
Aug-15	2015								
Oct-11	2011								
Jul-12	2012								
Jan-12	2012								
Mar-12	2012								
Apr-15	2015								
Aug-11	2011								
Jul-14	2014								
Aug-14	2014								
Dec-14	2014								
Oct-13	2013								
Oct-14	2014								
Sep-14	2014								
Mar-15	2015								
Jun-14	2014								
Aug-15	2015								
Sep-14	2014								
Jul-14	2014								
Jun-14	2014								
May-15	2015								
Oct-12	2012								
Aug-13	2013								
Dec-14	2014								

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China municipal wastewater treatment - key privately managed plants and PPP project list

Project name	Asset type	Province	Capacity (m3/d)	Project status	Online year	Contract model	Contract period	Total investment (US$ million)	Key private sponsors (& % stak
Zhoukou City Wastewater Treatment Plant	Wastewater treatment plant	Henan	120,000	Operational	2009	TOT		9.3	Asia Environment Holdings (100
Jiangsu Taicang City East Wastewater Treatment Plant	Wastewater treatment plant	Jiangsu	40,000	Operational	2003	BOT	25	7.3	Golden State Environment Grou
Yancheng Wastewater Treatment Plant	Wastewater treatment plant	Jiangsu	50,000	Operational	2004	BOT		18.1	Golden State Environment Grou
Kunshan City Wastewater Treatment	Wastewater treatment plant	Jiangsu	88,000	Operational	2005	BOT	30	0.0	Golden State Environment Grou
Zhenyuan County Wastewater Treatment Plant	Wastewater treatment plant	Guizhou	20,000	Operational	2009	BOT	25	6.2	Han's Technologies Inc (100%)
Jiashan County Xitang Town Wastewater Treatment Project	Wastewater treatment plant	Zhejiang	16,500	Operational	2007	BOT	25	5.7	Han's Technologies Inc (100%)
Nanjing City North Wastewater Treatment Plant	Wastewater treatment plant	Jiangsu	300,000	Operational	2008	TOT	30	65.8	Golden State Environment Grou
Jiangsu Jintan City No. 1 Wastewater Treatment Plant	Wastewater treatment plant	Jiangsu	50,000	Operational	2009	TOT		10.0	Golden State Environment Grou
Kaili Sewage Treatment Plant	Wastewater treatment plant	Guizhou	80,000	Operational	2010	TOT	30	18.3	Beijing Enterprises Water Group
Jinzhou City Hongguang Wastewater Treatment Plant	Wastewater treatment plant	Hubei	100,000	Operational	2006	TOT	25	16.3	China Water Affairs (100%)
Wenzhou east wastewater treatment plant	Wastewater treatment plant	Zhejiang	150,000	Operational	2002	TOT			General Water of China (100%)
Wenzhou central wastewater treatment plant	Wastewater treatment plant								
Jiangxi Wannian Wastewater Treatment Plant	Wastewater treatment plant								
Diao Bing Shan Wastewater	Wastewater treatment plant								
Huaxin Town Wastewater Treatment Plant	Wastewater treatment plant								
Tiantai County Wastewater Treatment Plant	Wastewater treatment plant								
Qinhuangdao Haigang Sewage Treatment Plant	Wastewater treatment plant								
Shanghai Zhuyuan No. 1 Sewage Treatment Plant	Wastewater treatment plant								
Changle County Sewage Treatment Plant	Wastewater treatment plant								
Qinzhou Economic Development Zone Wastewater Treatment Plant	Wastewater treatment plant								
Jilin Siping City Wastewater Treatment Plant	Wastewater treatment plant								
Jilin Liaoyuan Wastewater Treatment Plant	Wastewater treatment plant								
Juye County Wastewater Treatment Plant	Wastewater treatment plant								
Liaoyang City Hedong Wastewater Treatment Plant	Wastewater treatment plant								
Qingshanhu Wastewater Treatment Plant - Phase I	Wastewater treatment plant								
Wangxiaoying Wastewater Treatment Plant	Wastewater treatment plant								
Panjin City No. 2 Wastewater Treatment Plant	Wastewater treatment plant								
Tangjiatuo Wastewater Treatment Plant - Phase I & II	Wastewater treatment plant								
Zhuhai Veolia Water Treatment Co., Ltd. (North one)	Wastewater treatment plant								
Beiyuan Wastewater Treatment Plant	Wastewater treatment plant								
Hedong Chuangwei Water Co. Ltd.	Wastewater treatment plant								
Qingdao Wastewater Treatment Plant	Wastewater treatment plant								
Xinhui East Wastewater Treatment Plant	Wastewater treatment plant								
Zhuzhuanjing Qiao Wastewater Treatment Plant	Wastewater treatment plant								
Hubei Jinmen Xiajiawan Wastewater Treatment Plant	Wastewater treatment plant								
Hubei Zhushan County Wastewater Treatment Plant	Wastewater treatment plant								
Feng County Wastewater Treatment Plant Phase I	Wastewater treatment plant								
Lvshun Bolanzi Wastewater Treatment Plant - Phase I	Wastewater treatment plant								
Changsha Second Wastewater Treatment Plant	Wastewater treatment plant								

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Global companies across the value chain are developing strategies to capitalize on greenfield opportunities in water -- new build, new business models, and private investment. Bluefield Research supports a growing roster of companies across key technology segments and industry verticals addressing risks and opportunities in the new water landscape.

Companies are turning to Bluefield for in-depth, actionable intelligence into the water sector and the sector's impacts on key industries. The insights draw on primary research from the water, energy, power, mining, agriculture, financial sectors and their respective supply chains.

Bluefield works with key decision-makers at utilities, project development companies, independent water and power providers, EPC companies, technology suppliers, manufacturers, and investment firms, giving them tools to define and execute strategies.

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