

China's Household Water Filter Market

Research

Current Water Pollution Problems

The contamination of China's surface water was mild in 2013. Northern China had shown more heavily underground water contamination levels than South China, and the water in Northern China is harder than South China.

Less than half of Chinese homes, mainly the urban residential buildings are supported by public water supply systems.

Even though China's national drinking water quality standard has reached, or exceeded international standards, consumers are highly concerned about household drinking water quality.

	Source of Water	Water Plant	Water Supply Network	End User
Current Problems	Over 50% of the water sources can't meet the national standards	Only 17% of the treated water can't meet the national standards	<ul style="list-style-type: none"> 16.7% leakage rate of the pipes The materials of pipes could cause Pb pollution 	~40% surveyed people have concerns on water quality
Main Pollutants	<ul style="list-style-type: none"> Organic pollutants Heavy metals: Hg, Cd, Pb, etc Bacteria 	<ul style="list-style-type: none"> Residual chlorine 	<ul style="list-style-type: none"> Heavy metals from pipelines: Pb Bacteria and rust 	
Drivers/ Reasons	<ul style="list-style-type: none"> Water pollution widely exists in China Environmental remediation can't be achieved in a short time 	<ul style="list-style-type: none"> The government is exerting efforts to improve the water quality and water supply infrastructure 12th Five Year Plan has allocated 66 billion USD to improve China's water supply infrastructure and water supply management 		<ul style="list-style-type: none"> Continuous environmental pollution could aggravate concerns

Market Context

The home water purifier market is at the beginning of its fast growth phase. Ideally, PIM estimates that 50% of Chinese families will use household water purifiers at the saturation point in 2020. Therefore, 40 million units of household water purifiers will be needed, with the after-sales filter replacement market reaching 16.12 billion USD accordingly. (Chart 1)

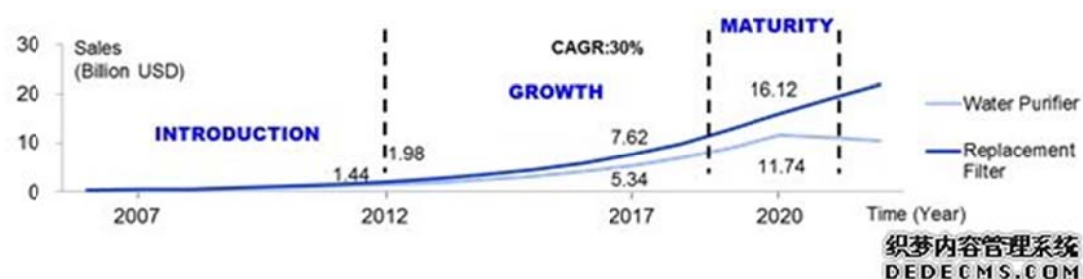


Chart 1: China's Water Purifier Market in Value (2007~2020, Billion USD)

About 4,000 home water purifier suppliers are active in the market; however, only about 10 of them have annual sales revenues of one hundred million RMB. The others are small regional enterprises, with only half of them having hygiene licenses.

The top three national water purifier brands, QINYUAN, Angel and Midea accounted for 14% of the total sales in 2012; and they all concentrated on RO systems; Litree and QLIFE are the major users of UF membrane technology.

Purification Technologies

	Technology	Main Functional Material	Market Share
Physical 75%	Separation (membrane)	MF filter	15%
		UF membrane	15%
		RO membrane	40%
	Adsorption	Activated Carbon*	5%
Chemical 25%	Replacement	Ion-Exchange Resin	10%
	Oxidation-reduction	KDF,NMC	10%
	Others	UV, Ozone, E33**, AMS**, etc.	DEDECMS.COM

• Drawbacks of the four major purification technologies

Household Water Purifier System	Shortages in Application
MF (Ceramic)	<ul style="list-style-type: none"> Limited filtration precision, commonly is 0.5 um. The pure ceramic filter can only remove small particles and large bacteria Can not soften the hard water
UF	<ul style="list-style-type: none"> Limited filtration precision Hollow fiber breakage problem Can not soften the hard water
RO	<ul style="list-style-type: none"> The demand of electricity power Water waste Relatively large size High filter replacement and usage cost
Activated Carbon*	<ul style="list-style-type: none"> High initial investment High replacement cost Can not soften the hard water

Market Needs

Ideal Function:

- Effectively remove organic pollutants
- Effectively remove heavy metals, especially the Pb impurities
- Effectively remove residual chlorine

- Effectively remove bacteria and viruses
- Soften hard water

Ideal Product Structure:

- No power consumption
- No water waste
- Simple structure: one or two filters
- Small size
- Easy to be installed and replaced

Competitive Pricing:

- Selling price: less than 320 USD per unit
- Product cost: about 100 USD per system
- Replacement cost: less than 80 USD per year
- Use cost: 0 USD per year

Note: * The activated carbon system only refers to the purifier applied activated carbon as the main filter materials and mixed with other functional materials, like 3M products.

Sources: 1. China Water Resources Bulletin, 2014

2. Ministry of Public Health, National Development and Reform Commission, Ministry of Water Resources

3. <Urban water supply statistical yearbook>, China Urban Water Association, 2012

4. PIM research and analysis