

U.S. EXPORTS OF WATER FILTRATION AND PURIFICATION EQUIPMENT SHOW SIGNIFICANT GROWTH

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U.S. exports of water filtration and purification equipment reached \$1.8 billion in 2011, increasing by 20 percent since 2007 and by 110 percent since 2002, with Asia the leading export destination. Due to insufficient availability of water, rising incidence of extreme weather events, and increasing global demand for water resulting from demographic shifts, urbanization, and industrialization, U.S. exports of water treatment equipment are expected to remain high.

USES AND APPLICATIONS

- Water filtration and purification equipment principally sanitizes water, removing contaminants and pollutants for either consumption, industrial use, or, in the case of wastewater, reuse or release.
- Technologies range in complexity and sophistication from highly advanced treatment equipment (e.g., ozone and ultraviolet disinfection, and desalination) to low-technology equipment (e.g., simple residential filtration systems).

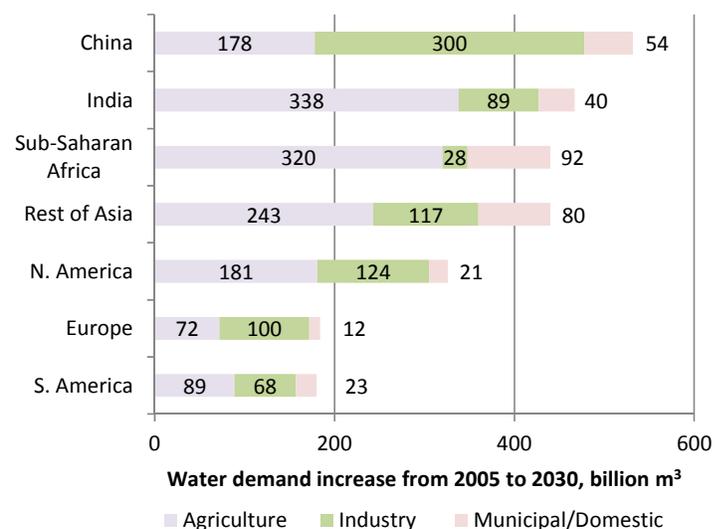
GLOBAL WATER TREATMENT MARKET

The global water treatment equipment and supplies market—of which filtration and purification equipment is a subset—is currently valued at nearly \$50 billion and is forecasted by The Freedonia Group, to reach \$65 billion by 2015. In particular, growth in global demand for water, and low water supply in some locations, will be the principal drivers of this expansion.

Demand

- **Demographics:** The world’s population is expected to reach 9 billion by 2050—up from 7 billion—which will strain available water supplies.
- **Urbanization:** By 2025, an estimated 5 billion people will be living in urban areas. Further, 70% of the world’s population is expected to inhabit cities by 2050 according to Bank of America. A burgeoning urban population will put increasing pressure on governments to provide clean drinking water and likely require significant improvements and additions to existing water infrastructure.
- **Industrialization:** New shipping rules and the growth of high-water intensive industries—such as energy (including oil and hydraulic fracturing)—will increase the need for high-end water treatments, including ballast systems, membrane and thermal desalination technologies, filtration, and biological treatment systems.
- **Regulations:** Governments in developing countries are imposing more stringent water regulations. China’s 12th five-year plan, for instance, mandates more extensive wastewater treatment and lower levels of certain pollutants.

Global water demand is expected to increase from 2005 to 2030, billion cubic meters (m³)



Source: Bank of America Merrill Lynch, *The Global Water Sector*, September 28, 2011.

Supply

- **Water supply shortages:** Freshwater accounts for less than 3% of total water globally and is not evenly distributed among countries; 60% of freshwater is concentrated in just 10 countries. Bank of America estimates that by 2030, demand for water will exceed supply by 40 percent, with nearly half of the world’s population expected to live in water-scarce areas.
- **Extreme weather:** According to Deutsche Bank Research, severe weather events, from droughts to excessive rainfall, are increasing, particularly in tropical climates. Further, resultant changes in hydrological systems are contributing to falling water levels in some regions and increased water runoff in others.

ASIAN AND LATIN AMERICAN MARKETS ARE DRIVING U.S. EXPORT GROWTH

The United States is one of the leading global exporters of water filtration and purification equipment, with \$1.8 billion in equipment and parts exports in 2011. During the recession, equipment exports fell more than exports of parts, but both subsequently recovered and surpassed prerecession levels. The U.S. trade surplus was \$548 million in 2011, and U.S. exports were about 17% of global exports of water filtration and purification equipment (excluding parts).

Asia and Latin America driving export growth: The value of U.S. exports to Asia rose 30% during 2007–11, with four countries—Korea, China, Japan, and India—accounting for most of the growth in exports to the region. China is the largest U.S. export destination in Asia. China’s membrane, filtration, and disinfection equipment market was about \$1.1 billion in 2010, and U.S. exports of water filtration and purification equipment to China totaled \$204 million in 2011.

U.S. exports to Latin America rose by 75% during 2007–11. Mexico and Chile accounted for the biggest increases in U.S. exports. Demand in Mexico, the region’s largest U.S. export destination, is rising and U.S. producers are strongly positioned in the market. The Chilean market is growing due to factors such as the expansion of mining. Chile has significant demand for advanced treatment technologies, which are commonly produced in the United States.

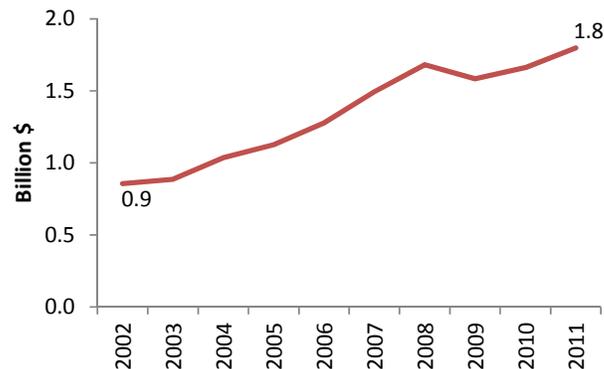
U.S. industry competitively positioned: U.S. exporters include small firms and diversified multinationals that export products ranging from small residential filtration systems to high-end technologies. U.S. producers have been competitive in global markets due to factors such as substantial production of advanced technologies, the development of products that serve unique market niches, efforts by U.S. producers to expand into new markets and enhance their global distribution networks, significant U.S. production for growing market segments like ballast water treatment, and the ability of U.S. producers to add value through the provision of services.

Competitive global market: U.S. producers face significant competition from manufacturers in the European Union (EU) and elsewhere. For example, U.S. producers lost market share in Canada to producers from the EU and Japan, with the U.S. share of Canadian imports of water filtration and purification equipment and parts falling from 78% in 2007 to 58% in 2011. Germany’s global exports of equipment (excluding parts) exceeded U.S. exports by \$28 million in 2011.

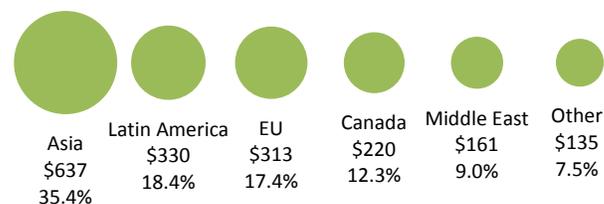
Trade barriers affect exports: Tariff and nontariff barriers (e.g., local-content requirements) may hinder the growth of U.S. exports to certain markets. More than 60% of countries had applied tariff rates of 5% or more on water filtration and purification equipment (HS 8421.21) in 2011, including substantially higher rates in some countries (e.g., 7.5% to 10% in India and 14% in Brazil). U.S. exports to a few countries with tariffs enter duty free due to free trade agreements.

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U.S. exports of water filtration and purification parts and equipment rose significantly during 2002–11

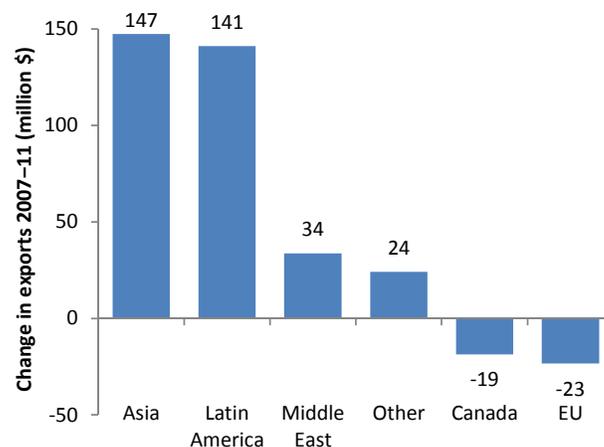


Asia was the largest U.S. export market in 2011



Value is million dollars. Percent is share of U.S. exports.

Asia and Latin America drove U.S. export growth



Source for above figures: USITC DataWeb/USDOC.

Document notes/sources: In this paper, U.S. trade data are exports in HTS 8421.21.0000 (machinery and apparatus for filtering or purifying water) and 8421.99.0040 (parts of equipment in 8421.21). Sources include USITC DataWeb/USDOC; GTIS, Global Trade Atlas database (accessed March 19, 2012); Deutsche Bank Research, *World Water Markets*, June 1, 2010; Bank of America Merrill Lynch, *The Global Water Sector*, September 28, 2011; Goldman Sachs, *The Essentials of Investing in the Water Sector*, version 2.0, March 24, 2008; Global Water Intelligence (GWI), “Five Years to Clean Up China’s Wastewater,” January 2012; Dow, *China’s Thirst for Water*, 2011; The Freedonia Group, “World Water Treatment Products,” September 2011; WTO, Tariff Download Facility, <http://tariffdata.wto.org>; CUSTOMS Info, Global Tariffs system, <http://export.customsinfo.com>; India Central Board of Excise and Customs Web site, <http://www.cbec.gov.in>; USITC staff interviews.