



**PACIFIC WATER** TECHNOLOGIES®  
*Advanced technology for water sustainability*

*June, 2009*

# 2008 Global Water Market – Selected Metrics

- \$495 billion global market
- 3-5% annual growth in developed markets and 10%+ in developing markets
- Water is the “petroleum” of the next century
- 61 key players worldwide
- Top 10 control approximately \$51 billion or 11% of global market
- Highly fragmented with very few “pure plays”
- Focus on regional markets
- Significant regulatory oversight/compliance

# The Emerging Water Crises

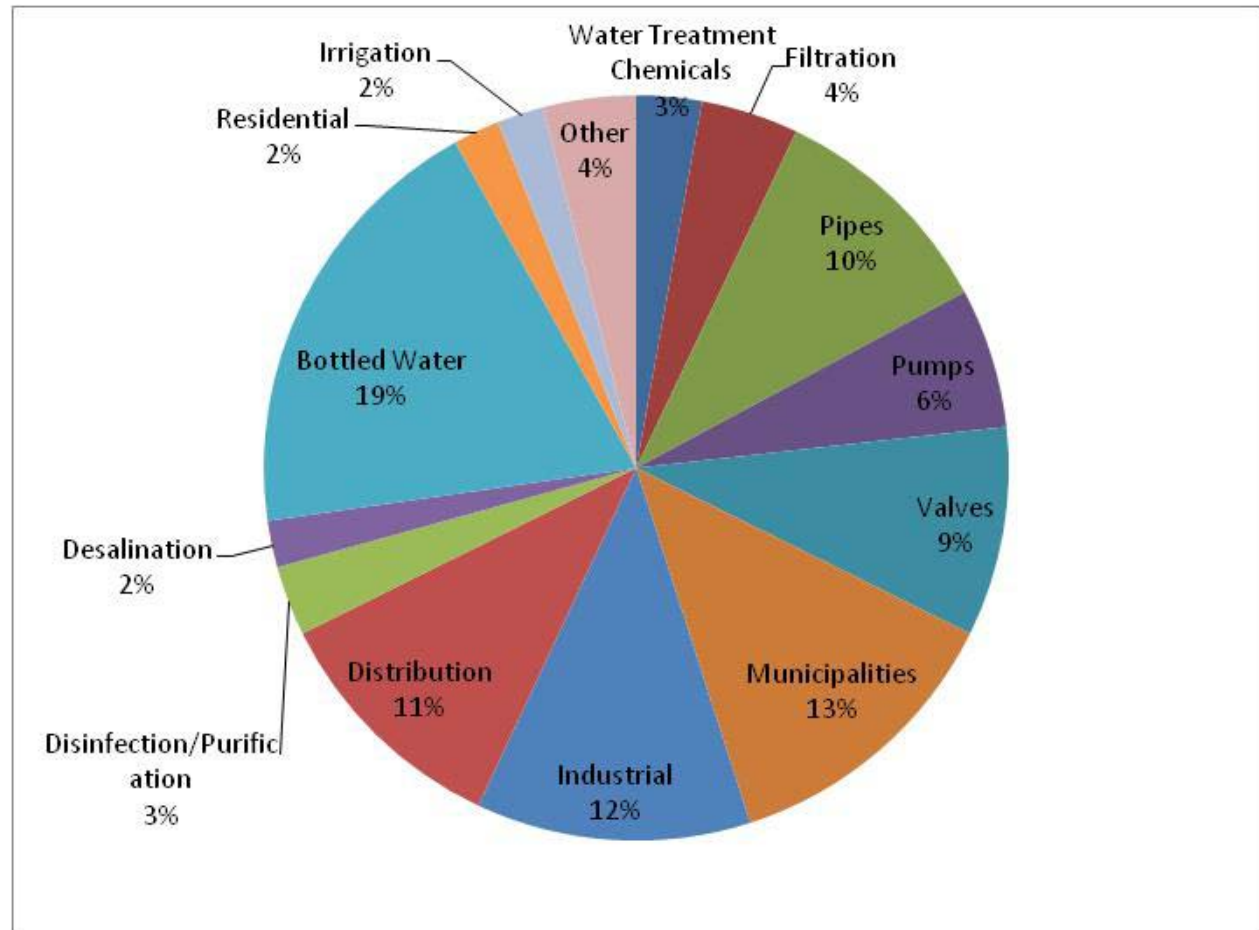
- Less than 1% of the earth's water is available for human use
- 1.1 billion people live without safe drinking water – 1.8 million waterborne deaths per year
- By 2025 one-third of the global population will not have access to potable water
- Global public water demand is doubling every 20 years
- Water-related energy use consumes 19% of California's electricity, 30% of its natural gas, & 88 billion gallons of diesel fuel every year
- 10% of the water supply in California is lost due to leakage in the system with some municipalities reaching 40% loss
- Water is a natural resource with NO substitute!

# Consequences Of The Water Crises

- Lack of potable water > 1 billion people – significant mortality and morbidity
- Threats to food & agricultural production
- Adverse impact on industrial development
- Increased demand on energy resources
- Massive capital investment to replace aging infrastructure
- Sharp increases in water prices
- Further stresses on environment resources and quality
- Geopolitical implications resulting from maldistribution of water resources

# 2008E Global Water Market Spending By Segment

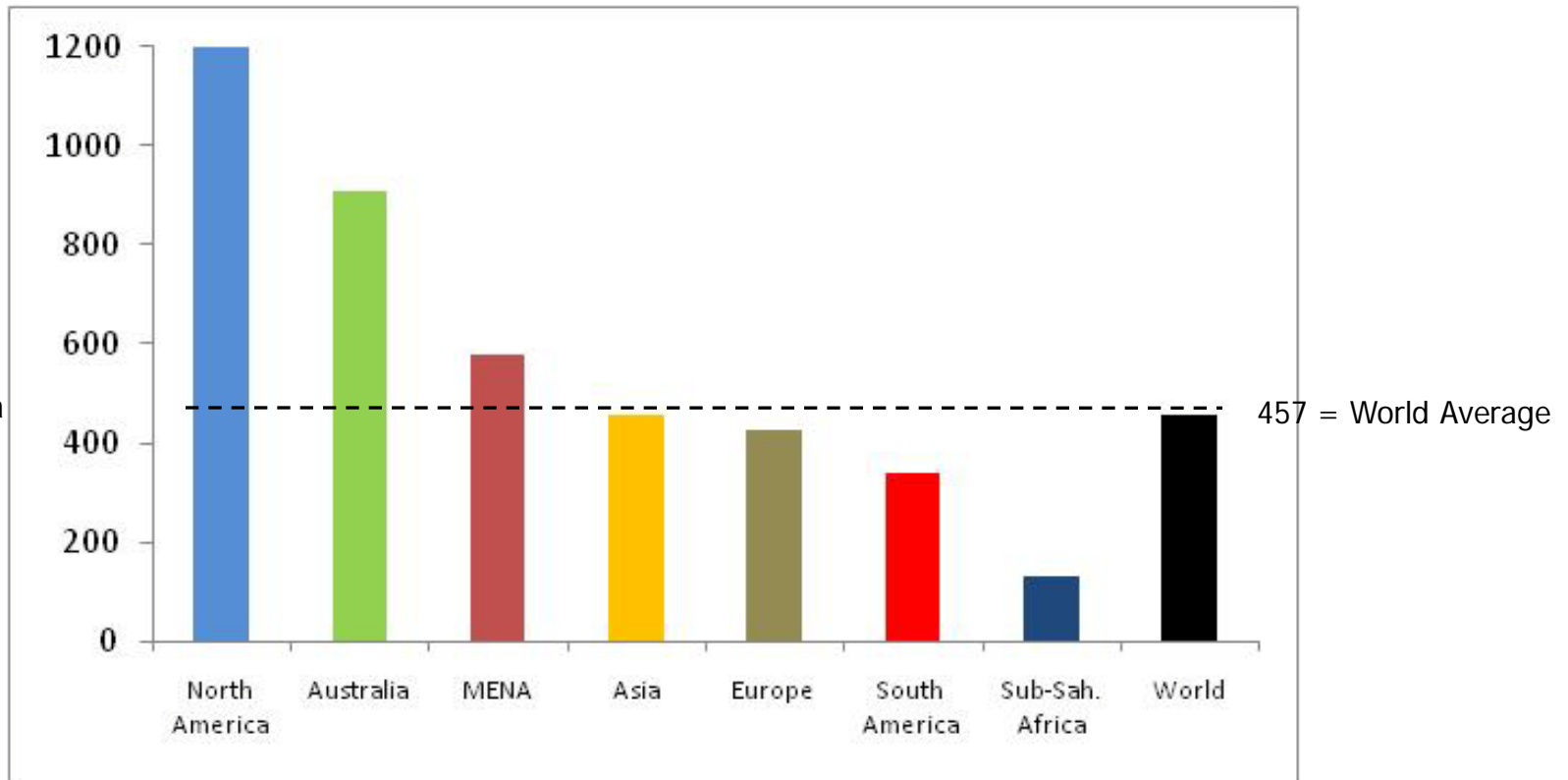
\$495 billion global market



Source: "The World's Water, 2006-2007" edited by Peter Gleick

# Global Water Population vs. Consumption

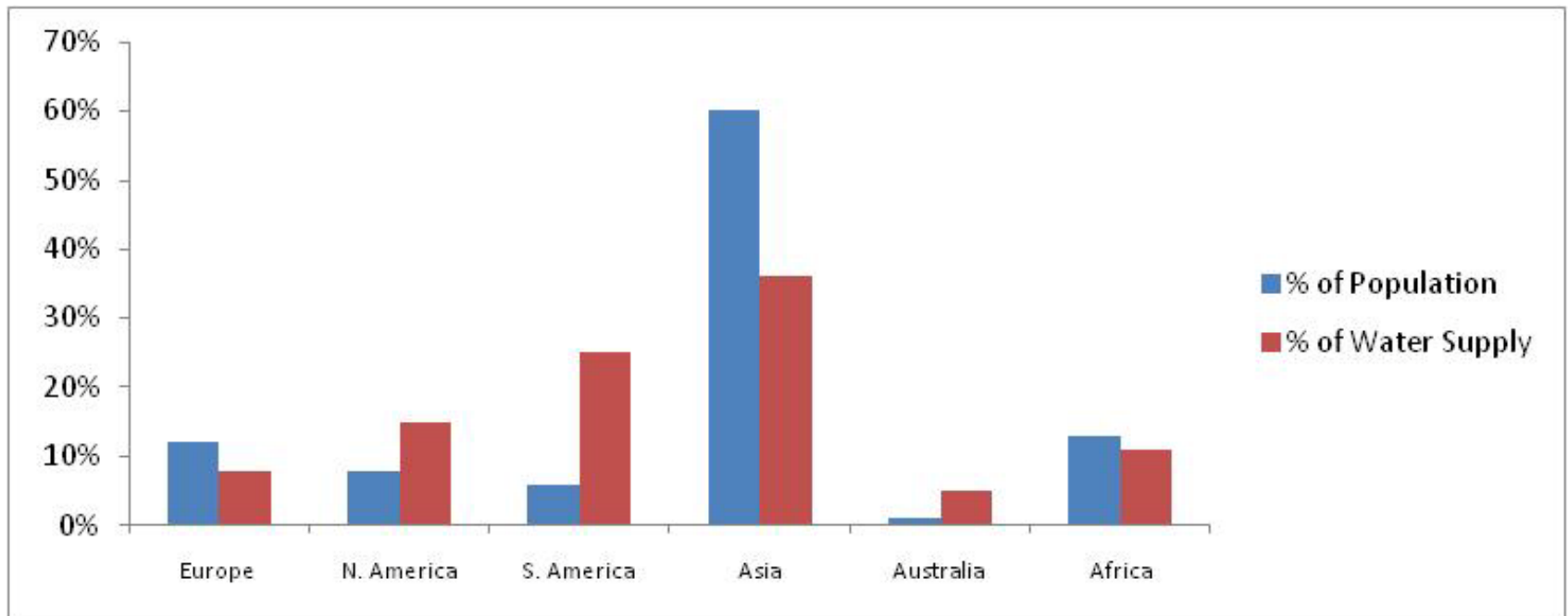
Gallons/day/capita



Source: WRI, EPA, Jefferies & Company

# Global Population vs. Water Supply

- Asia has 60% of the world's population and only 36% of the world's water



Source: EPA

# Water Consumption Facts

<b>Beverages (l/l)</b>	<b>Liters of Water</b>
Glass of Beer	300
Bottled Water	4
Cup of Coffee	1,120
Glass of Milk	1,000
Glass of Wine	960

<b>Assorted Goods (l/kg)</b>	<b>Liters of Water</b>
Roasted Coffee	2,100
Bread	1,300
Cheese	5,000
Hamburger	16,000
Leather Shoes	16,600

<b>Crops (l/kg)</b>	<b>Liters of Water</b>
Apple	700
Sugar	1,500
Corn	1,400

<b>Animals (l/kg)</b>	<b>Liters of Water</b>
Beef	15,000
Chicken	4,500
Eggs	3,300

Source: "The World's Water, 2008-2009"

# Market Trends

- Water conservation & sustainability
- Need to reduce interdependence of water & energy
- Adoption of advanced technology solutions to upgrade & replace aging infrastructure
  - \$1 trillion worldwide and \$500 billion by 2020 in U.S.
- Water re-use capabilities increasing in municipal & industrial sectors
- Desalination capacity expected to increase 150% by 2015
- Increasing government regulation & collaboration globally
- Agriculture adopting clean & water efficient solutions including water re-use
- Decentralized water solutions to solve localized water issues

Source: EPA, Jefferies & Company, Goldman Sachs

# The New Paradigm For Water Sustainability

- Smart distributed water systems
  - Eliminating the need for centralized water systems
  - Reduction of energy consumption
  - Increased water re-use
- New forms of water controls, processing, optimization and monitoring
  - Automation
  - Algorithms and neural networks
  - System accountability
  - Remote monitoring
- High recovery RO systems for desalination (sea & brackish)
- Advanced membrane technology
- Water “footprinting”

Source: WHO, EPA, Jefferies & Company