

# Digging into “Blue Gold”

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# Contents

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- Are We Running Out of Water
- Everyone Needs Water
- Investment in Water Has Been Limited
- Return Prospects in the Water Industry
- Who is Investing in the Water Industry
- Ways to Invest in the Water Industry
- Conclusion



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# Are We Running out of Water

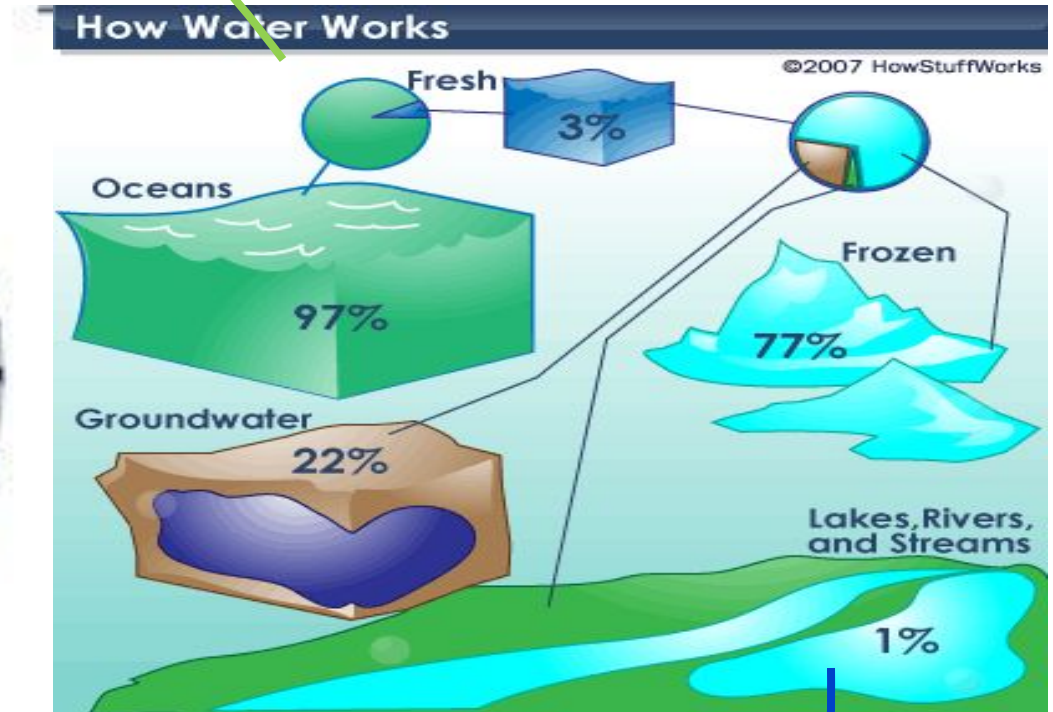
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- **“Humankind is running out of water at an alarming pace; we’re going to run out of water long before we run out of oil”**- Peter Brabeck (Nestle chairman, former CEO)



# Are We Running Out of Water

70% covered  
in water



**Less than 1% is readily available  
for consumption**

# Are We Running Out of Water

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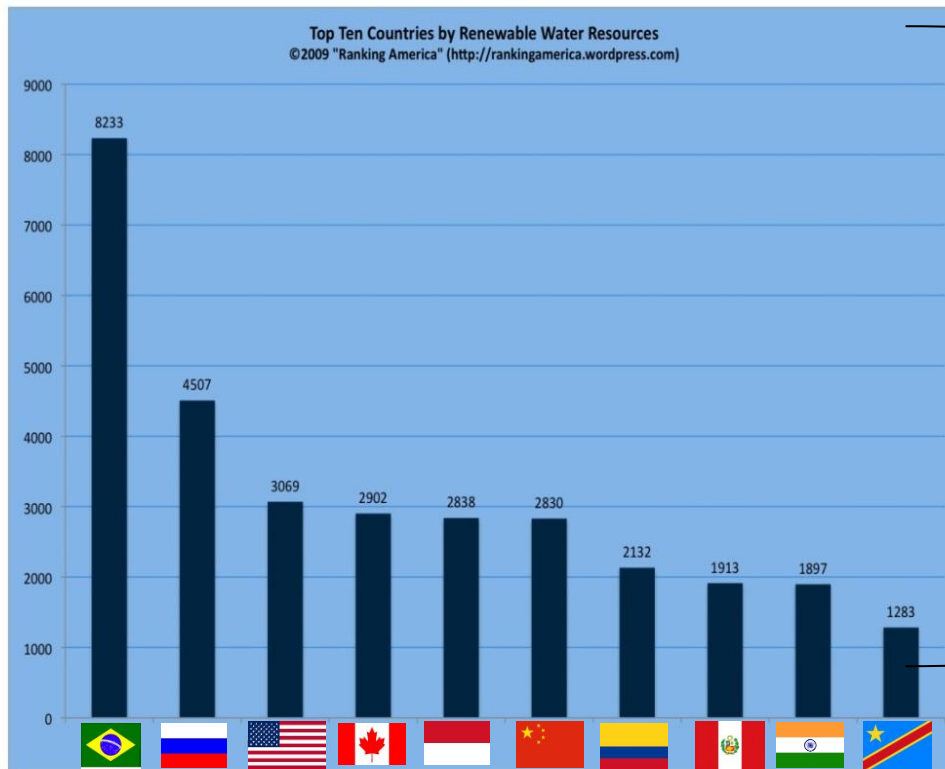
- **“Humankind is running out of water at an alarming pace; we’re going to run out of water long before we run out of oil”**- Peter Brabeck (Nestle chairman, former CEO)
- Water supply crises has been one of the biggest concerns in the world today.
- 70% of the world is covered in water, yet around 3% of the world’s water is fresh.
  - of that 3%, about 1/3 is available for readily use.
- Water consumption is increasing about 64 cu km per year
- More than half of the world’s water supply is held in ten countries.
- Population growth and pollution are depleting the world’s water supply.
  - about 2/3 of world population estimated to be living under water- stressed conditions by 2025.
  - All forms of pollution are affecting the world’s freshwater supply



# Water Distribution

Total renewable water: 55,171.54 cu km

Top ten countries: 31,604 cu km



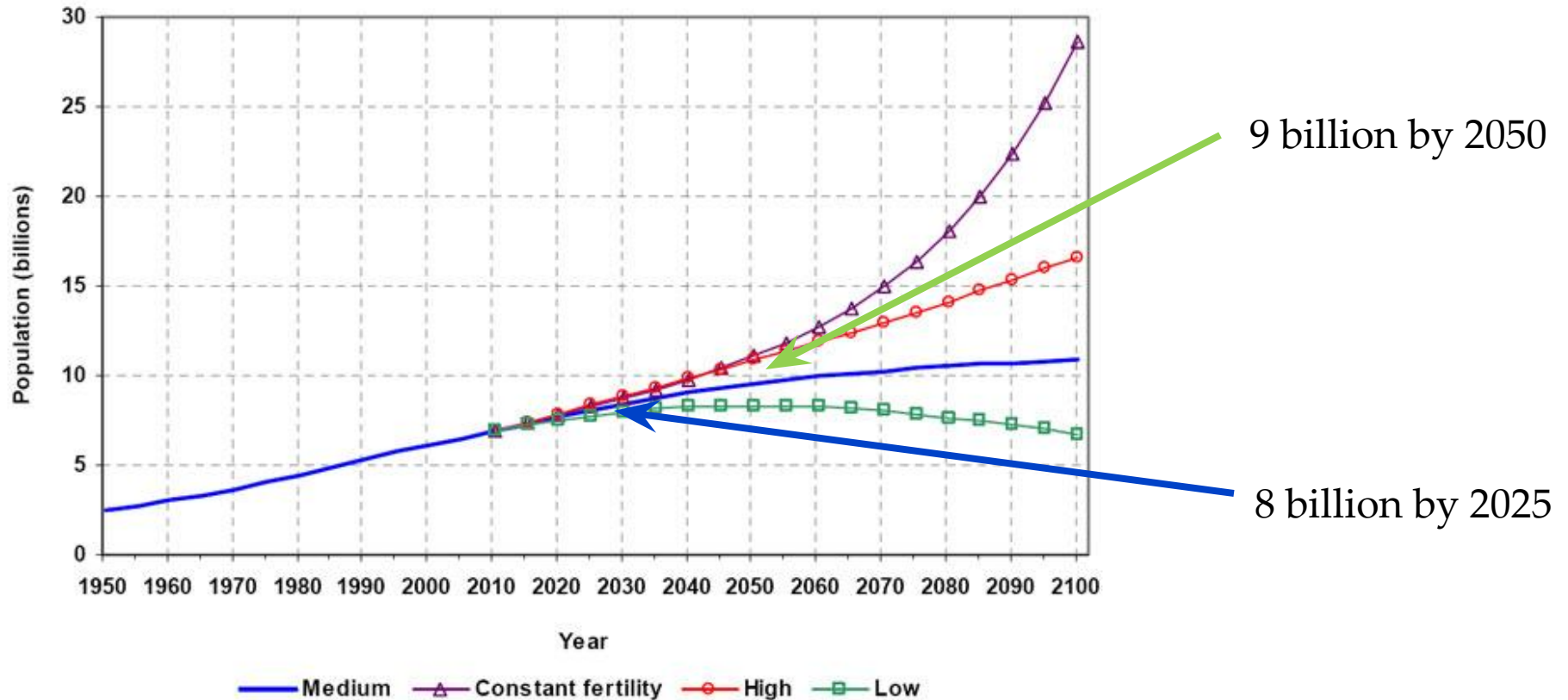
57% of Renewable Water Supply

Data from World Resources Institute  
<http://earthtrends.wri.org/datatables/index.php?theme=1>



# Population Trend

Figure 1. Population of the world, 1950-2100, according to different projections and variants



Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat (2013). *World Population Prospects: The 2012 Revision*. New York: United Nations.





# Water Pollution

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Oil Pollution



Marine Dumping



Sewage and Wastewater



Global Warming

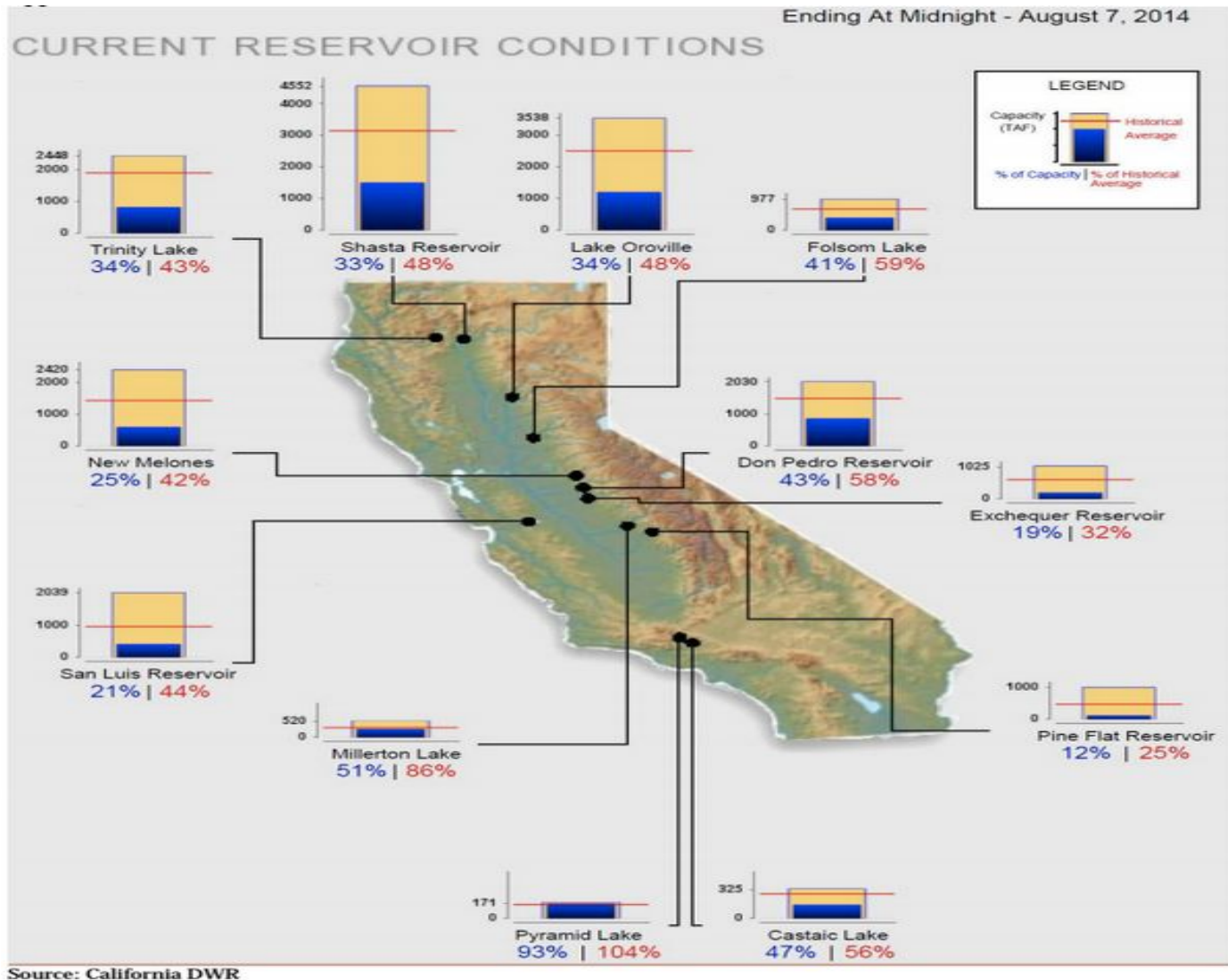


Underground Leaks



Eutrophication

# Case Study: West Coast Drought



# Case Study: West Coast Drought

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- Last year was the driest calendar year on record in California, with some areas reportedly eclipsing previous record minimum precipitation values by around 50%.
  - Lake Mead (Southwest's biggest source of drinking water) has sunk to its lowest level since it began filling in the 1930's
- Unless it rains soon, 200,000 of 600,000 acres of prime agriculture land will lay fallow in Fresno Count
- The state's water managers report that without strong winter storms, they will be able to deliver only 5% of the over 4 million acre-feet of water requested to supply more than 25 million people, and nearly a million acres of irrigated farmland.
  - A large-scale collapse could jeopardize the state's water supplies, and the state's status as supplier of about **half** of the nation's fruits and vegetables
  - A controversial \$25 billion infrastructure solution is under consideration



# Case Study: West Coast Drought

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Lake Mead after 14 years of drought



Max Capacity at 35 cu km

Current Storage is around 12 to 13 cu km

Current Storage less than 40% of  
Max capacity





# Case Study: West Coast Drought

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# Case Study: West Coast Drought

<u>Food</u>	<u>US Price In 2000(per lb.)</u>	<u>US Price Today(per lb.)</u>	<u>% Increase</u>
Almonds	\$0.97	\$2.58	+165%
Broccoli	\$.27	\$1.91	+607%
Lettuce (romaine)	\$.41	\$1.79	+337%
Ground Beef	\$1.63	\$3.91	+140%



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# Everyone Needs Water

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**“Water must be somehow valued: whether you call it cost, or price, or cost recovery, It’s not an infinite resource, and anything that’s not an infinite resource must be valued” - Usha Rao-Monari (CEO of Global Water Development Partners)**





# Everyone Needs Water

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- Water is the only commodity with absolutely no substitute.
- Per capita water consumption has roughly doubled in the last century, a rate that will accelerate as more economies industrialize and populations become more urban.



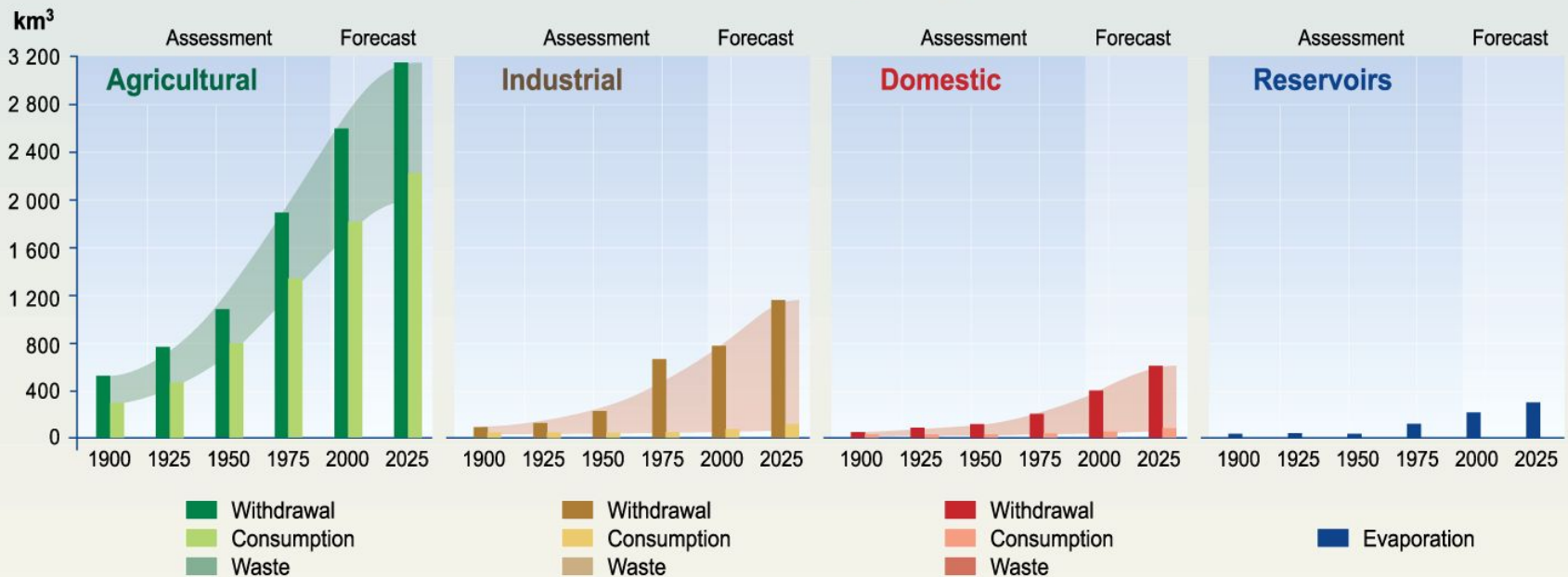
# Demand for Water Globally

**Agriculture 70%**

**Industry 22%**

**8% Domestic**

## Evolution of Global Water Use Withdrawal and Consumption by Sector



**Note:** Domestic water consumption in developed countries (500-800 litres per person per day) is about six times greater than in developing countries (60-150 litres per person per day).

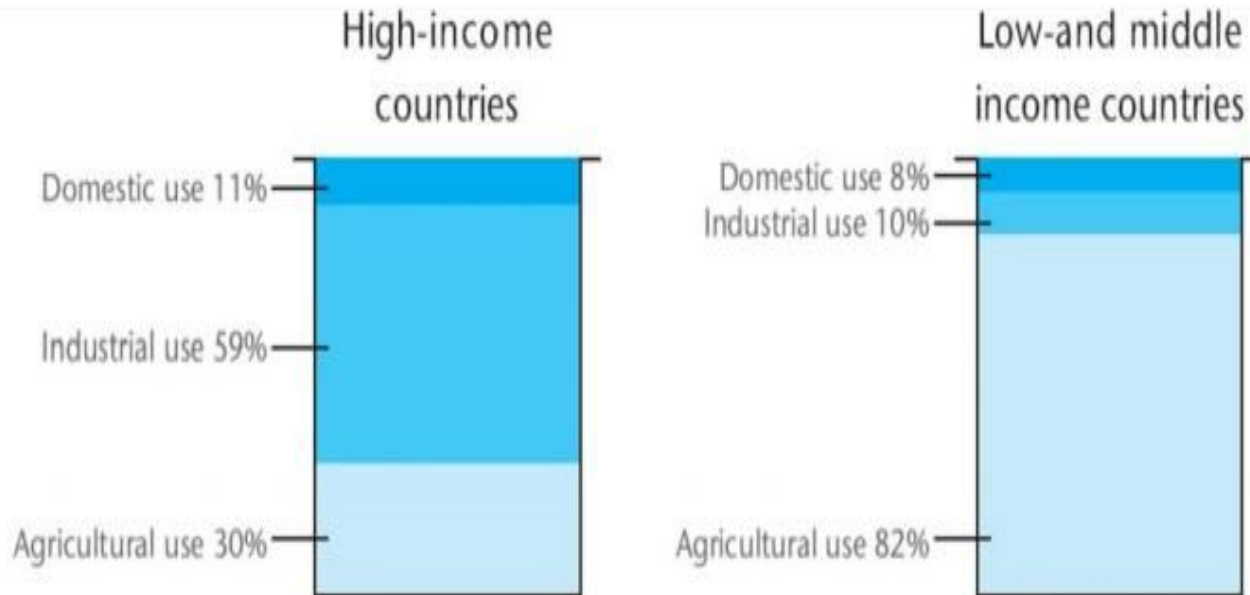
PHILIPPE REKACEWICZ  
FEBRUARY 2002

Source: Igor A. Shiklomanov, State Hydrological Institute (SHI, St. Petersburg) and United Nations Educational, Scientific and Cultural Organisation (UNESCO, Paris), 1999.



# High Income VS Low and Middle Income Countries

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# Do We Have Enough Water?

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## **Good News:**

- The world consumed around 9,087 cu km of water in 2012.
- There is about 55,000 cu km of renewable fresh water in the world
- We still have some time before the world needs to use ALL of the fresh water.

## **Bad News:**

- World water consumption is increasing at a constant rate each year.
- Current water infrastructure is deteriorating in developed countries, and is non-existent or adequate enough in developing countries.
- There are an estimated 240,000 water main breaks per year in the United States.



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# Investment in Water Has Been Limited

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**-“Nowadays people know the price of everything and the value of nothing.” – Oscar Wilde (Poet/ Writer)**



# Investment in Water Has Been Limited

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- Nearly the entire water pipeline system in the US and Europe will soon have to be replaced. The cost could reach more than \$1 trillion over the decades, according to the American Water Works Association
- Only about 10% of water utilities are publicly traded, with 90% still owned by state and local governments.
- Right now the majority of water utilities are owned by states and municipalities. To help generate more funding for needed water projects, many of these utilities are going public.



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# Who is Investing in the Water Industry

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- **“If you survey the top 500 companies, more than half of them will say that already their bottom line is being affected by water issues,”**- Andrew Steer (World Resource Institute, President/CEO)



# Who is Investing in the Water Industry

Company	How They Invest
Blackstone Energy Partners 	Created global Water Development partners which will support companies that need to create long term sustainable water facilities.
Goldman Sachs 	Goldman Sachs acted as sole bookrunner in the issuance of \$308 million of Lehigh County Authority Water and Sewer Revenue bonds (City of Allentown Concession).
General Electric 	Develops several technologies to create safe drinking water with companies like Osmonics Inc., ZENON environmental and Ionics,
World Resources Institute 	Launched "Aqueduct", a mapping and measurement tool for water risks around the world.
Nestle 	Improving own factories with better technologies to conserve and transport water more efficiently.
Coca Cola 	Partnered with FEMSA foundation to help with water conservation in South America and with WWF for conservation of water basins around the world.

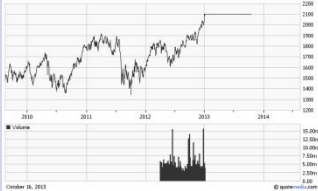
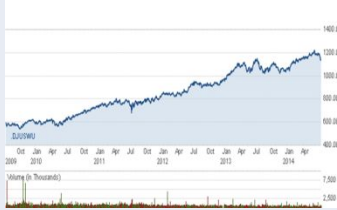

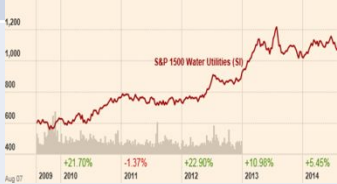


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Index	Description	Performance	Charts(5 Yrs.)	Top Investments
Palisades Water Index	Tracks performance of pump and filter manufacturers, water utilities and irrigation equipment manufacturers	The index was set at 1000 as of December 31, 2003 and not even 10 years later is has fluctuated around the 2,000 mark.		Tetra Tech, Itron Inc., Urs Corp, AECOM, Danaher Corp
Dow Jones U.S. Water Index	comprised of a large number of international and domestic companies which are affiliated with the water business	In 2004, it was valued at 400, currently it is valued over 1000		STW Resources Holding Corp, Pure Cycle Corp, Cadiz Inc., California Water Service Group
ISE-B&S Water Index	water distribution, water filtration, and flow technology companies that specialize in water-related solutions	Five year ago valued at about 60, currently valued at 130.		Consolidated Water Co, Energy Recovery Inc., Ashland Inc., American Water Works Co Inc., Xylem Inc.
S&P 1500 Water Utilities Index	this index is composed of just two companies	Five years ago valued just under 600, currently valued at over 1000		American States Water, Aqua America

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# Ways to Invest in the Water Industry

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ETF's



Water Rights



Desalination

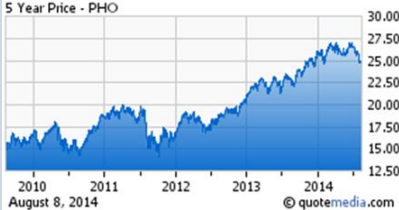

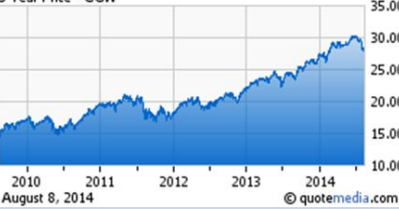

# ETF's

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- The top water ETF's allow for investment in various water-related stocks. A lot of which are thriving due to the exponential increase demand of water around the world.
- Top ETF's include:
  - PowerShares Water Resource ETF (PHO)
  - PowerShares Global Water ETF (PIO)
  - Guggenheim S&P Global Water ETF (CGW)
  - First Trust ISE Water Index ETF (FIW)
- All of these ETF's focus on industrials and utilities in the water industry, which is where the largest opportunities lie when it comes to investing in water-related stocks.



# ETF's

ETF	Top 5 Companies	Performance
PowerShares Water Resource ETF (PHO)	Roper Industries Inc., Waters Corp., Flowserve Corp., Pall Corp., Pentair PLC	 <p>5 Year Price - PHO</p> <p>August 8, 2014 © quotemedia.com</p>
PowerShares Global Water ETF (PIO)	Roper Industries Inc., Flowserve Corp., Pentair PLC, Veolia Environment SA, Geberit AG	 <p>5 Year Price - PIO</p> <p>August 8, 2014 © quotemedia.com</p>
Guggenheim S&P Global Water ETF (CGW)	Pentair PLC, Geberit AG-REG, United Utilities Group PLC, American Water Works CO INC., Danaher Corporation	 <p>5 Year Price - CGW</p> <p>August 8, 2014 © quotemedia.com</p>
First Trust ISE Water Index ETF (FIW)	California Water Service Group, American Water Works Company Inc., Badger Meter Inc., Watts Water Technologies Inc., Aqua America Inc.	 <p>5 Year Price - FIW</p> <p>August 8, 2014 © quotemedia.com</p>



# Water Rights

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- A water right is a legal authorization to use a predefined quantity of public water for a designated purpose.
- It is difficult to invest directly in water rights. Close approximation to the water source is recommended and there should be a clear purpose for what the water will be used for.
- Water Rights are becoming popular due to rising demand in water in several industries.
  - Agriculture, Fracking companies, Land Development.
- One can invest indirectly in Water Rights through hedge funds that own water funds or through companies that are specialize in water rights.
- Pure Cycle Corp is one of the leading companies of providing water through Water Rights.



# Desalination

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Positives: <http://www.greenchipstocks.com/report/water-desalination-investments/426>

Negatives: <http://www.lexpress.mu/node/210322>

desalination is not cost-competitive with other tactics such as water importation – though the price has declined 60% in the last 15 years, and continues to do so

Desalinating one acre-foot (326,000 gallons)  
costs about \$800, while importing that same  
amount costs about \$500



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# Conclusion

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- Less than 1% of the world's Water fresh and readily available for consumption.
- 2/3 of the world's population is expected to be living under water-stressed conditions by 2025
- Water Infrastructure costs could reach over one trillion dollars over the next couple decades, and that is just in the U.S.
- Water Indices have been positive for the past five years...?



# Appendix



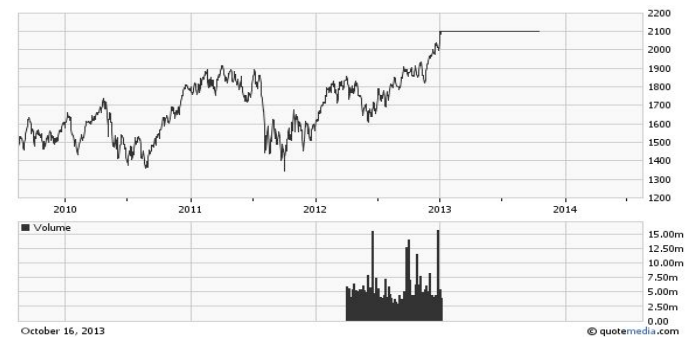
S&P 1500 Water Utilities Index



ISE-B&S Water Index



Dow Jones U.S. Water Index



Palisades Water Index



# Bottled Water

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- Bottled Water Consumption has increased 40% in the past 14 years.
- Beverage Marketing Corporation predicts that sales of bottled water will exceed those of soft drinks within the next decade.
- Low Brands water bottles are sold at about .08 cents a bottle, this is why bottled water industry is not attractive.
- As Premium brands become more popular



# Appendix

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Water Rights:

<http://www.businessinsider.com/water-investing-2012-7?op=1>

<http://www.excelwater.com/2008-goldman-sachs-water-primer.pdf>

Desalination:

<http://www.greenchipstocks.com/report/water-desalination-investments/426>

[www.lexpress.mu/node/210322](http://www.lexpress.mu/node/210322)

