



Water:


The
Overlooked
Resource

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Energy & Water

- The industry's immense focus on energy
- Poll: How many could live 48 hours without energy?
- Poll: How many could live 48 hours without water?
- How can we make informed decisions if we don't measure? (Data is our friend)

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- “Everyone understands that water is essential to life. But many are only just now beginning to grasp how essential it is to everything in life – food, energy, transportation, nature, leisure, identity, culture, social norms, and virtually all the products used on a daily basis.”
 - World Business Council for Sustainable Development, August 2006



What's the Reality?

No Water, No Growth

"Battles over water in the West are always about something more. At their most elemental, they are about survival." – Bettina Boxall



Is Zero-net Energy The Goal?

- Don't forget about water... or else...

Energy Footprint of Water

- California: “The water sector is the largest user of energy in the state, accounting for 19% of all electricity consumed in the state and 30% of nonpower plant-related natural gas use.”¹
- “U.S. public drinking water systems use roughly 39.2 billion kWh per year”² or 3.92 trillion LED (A19) bulbs³ or 2x annual electrical consumption of San Diego County in 2016⁴
- Between 1996 & 2013, electrical use for supply & wastewater treatment increased by 39% & 74%, respectively²

Sources:

1 *California's Water-Energy Relationship* Water-related energy included that amount of energy directly consumed by water agencies in the collection, extraction, conveyance, treatment, and distribution of water to end users, and the treatment and disposal of wastewater. It also included the amount of energy used to consume water, e.g., to heat water for a shower or to pump it through a cooling tower.

2 *Electricity Use and Management in the Municipal Water Supply and Wastewater Industries*, November 2013

3 Office of EERE, <https://www.energy.gov/eere/articles/how-much-power-1-gigawatt>, October 2016

4 California Energy Commission, <http://ecdms.energy.ca.gov/elecbycounty.aspx>

More on Energy

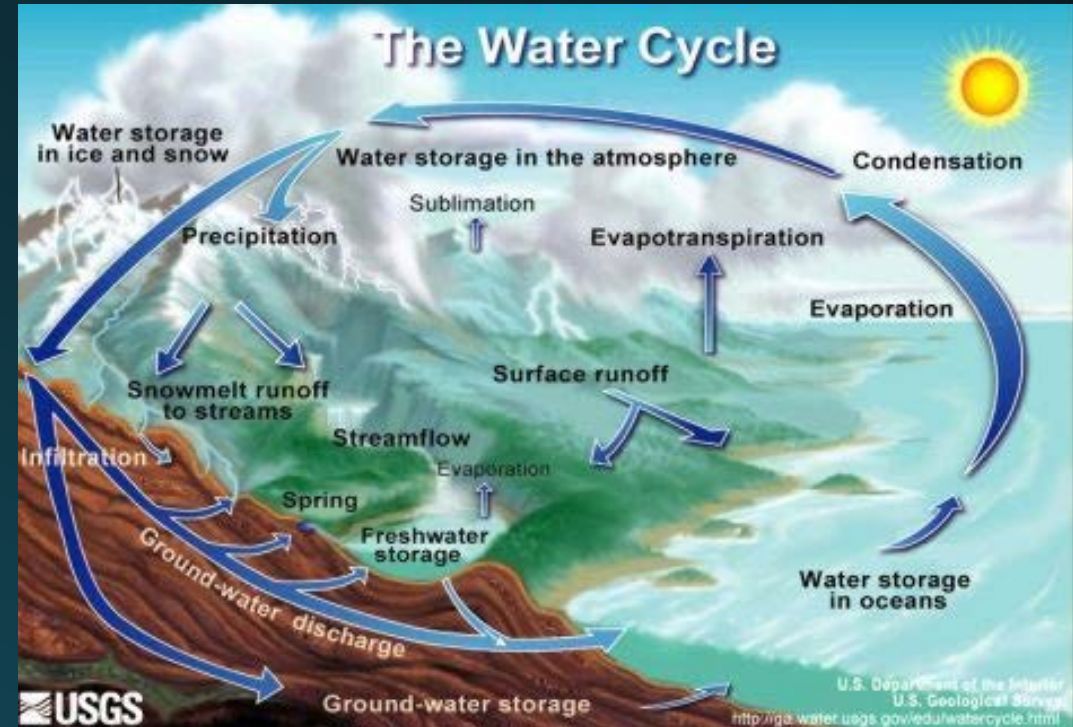
- “Moving electricity from plants to homes and businesses on the transmission and distribution grid, we lost **69 trillion Btu** in 2013”¹
- If California’s 19% figure is considered the norm, then **13.11 trillion lost Btu** can be attributed to our water usage

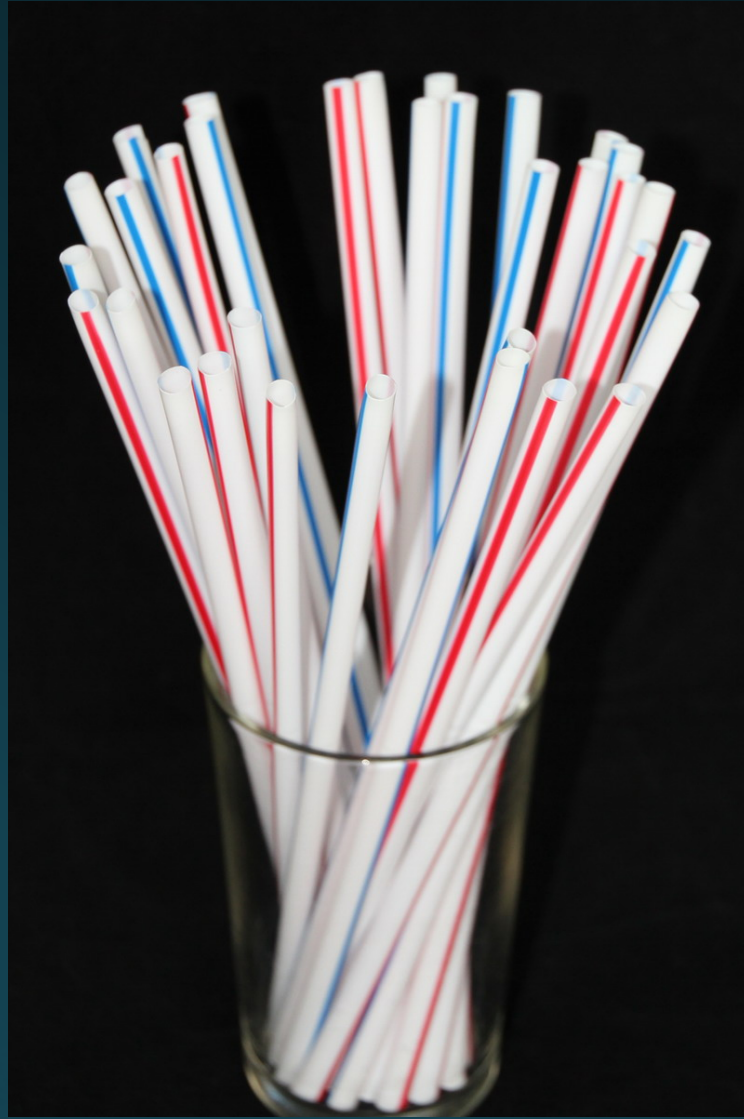
Source:

1 Inside Energy – “Lost In Transmission: How Much Electricity Disappears Between A Power Plant And Your Plug?” by Jordan Wirfs-Brock. November 6, 2015.

There's Only One Water

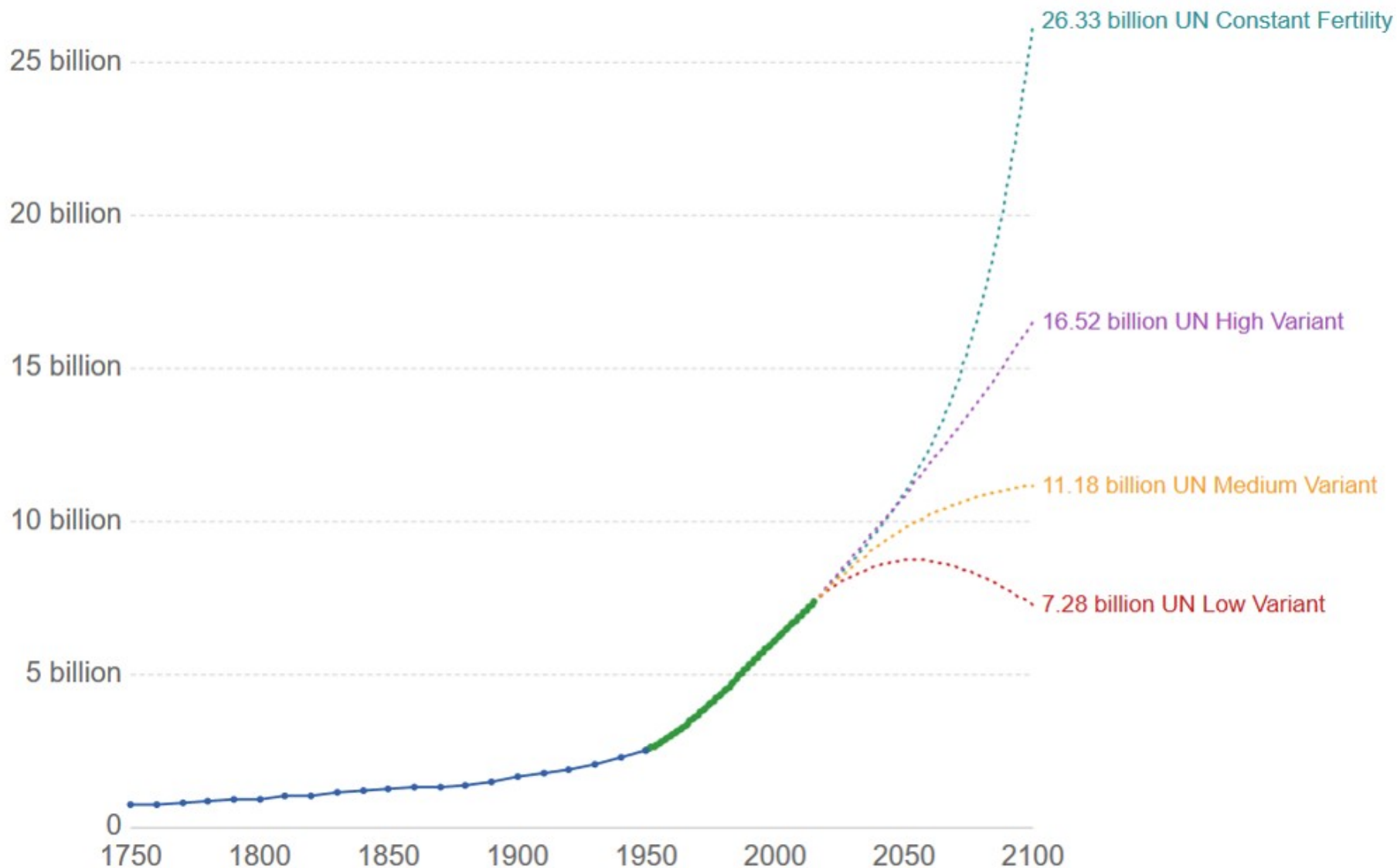
- Potable Water
- Freshwater
- Saltwater
- Rainwater
- Stormwater
- Graywater
- Blackwater
- Reclaimed Water





Comparison of world population projections

Projections from 2015 onwards depict different fertility variants



Source: UN Population Division (2017 revision), HYDE

OurWorldInData.org/world-population-growth/ • CC BY



People are Funny About Their Water



What Are We Doing About It?

- Codes
 - WaterSense-only fixtures
 - Performance-based approach (very limited adoption)
- Incentives





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 - Free aerators
 - Toilet retrofit programs
 - Turf removal programs
- Green Building Programs

The background of the slide features a vertical strip on the left side showing a close-up of ocean waves with white foam, transitioning into a dark teal gradient that covers the rest of the slide.

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- Green Building Programs
 - LEED
 - WaterSense for Homes
 - National Green Building Standard

Innovation - Products

- UHE toilets
- Composting toilets
- Graywater systems
- Rainwater systems
 - Roof capture
 - Site capture



Innovation - Techniques

- Centralized plumbing design
- Climate-adapted plants

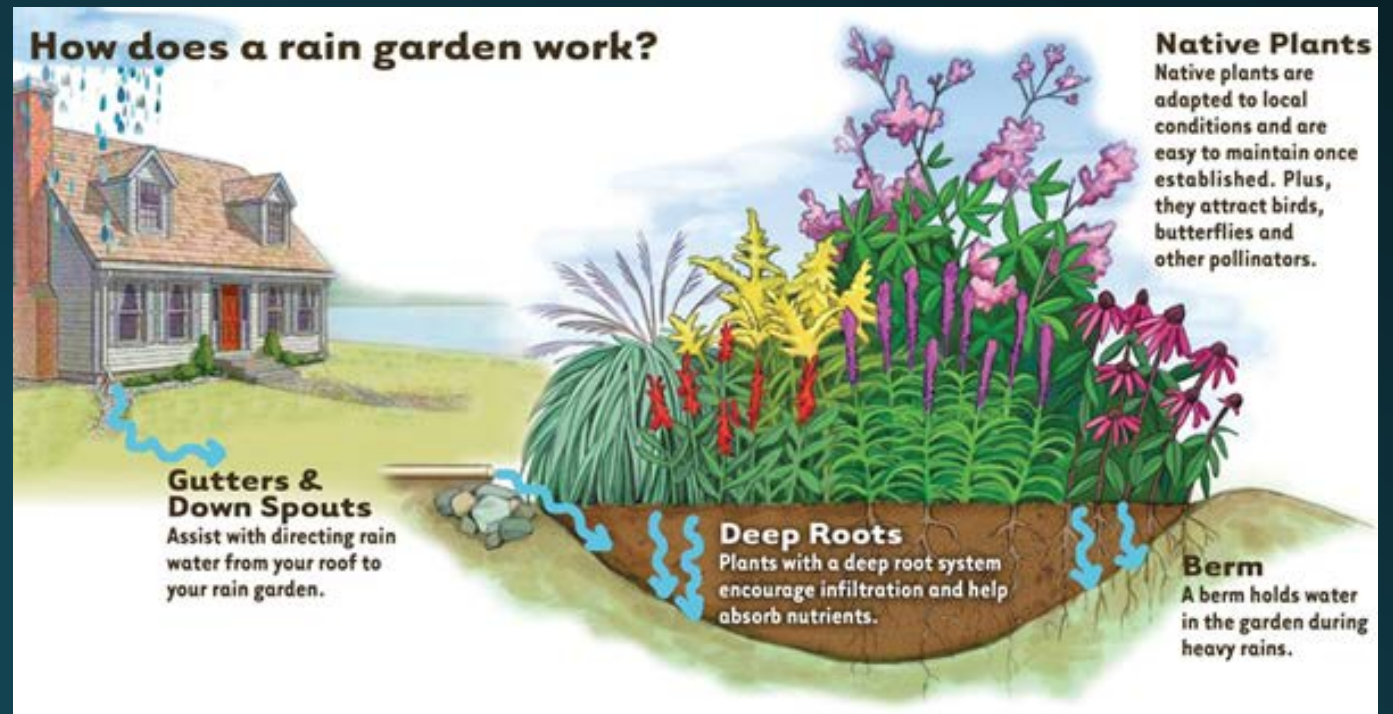


Phoenix suburb



Innovation - Techniques

- Centralized plumbing design
- Climate-adapted plants
- Passive rainwater harvesting
- Keeping water on the site





“Water is the lifeblood of our bodies, our economy, our nation and our well-being.”

Stephen Johnson

Next Generation Water Summit

- June 12 – 14, 2019
- Santa Fe (NM) Convention Center
- 3 educational tracks
 - Building Community
 - Water Professionals (Raters, Auditors)
 - Policy
- June 14 = Free Day!
 - Careers in Water track
- www.NextGenerationWaterSummit.com



Questions?

Contact Green Builder[®] Coalition for More Info
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Thank you!

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