



# The Value of Public-Private Partnerships in Addressing Water Issues

Water-Energy Nexus

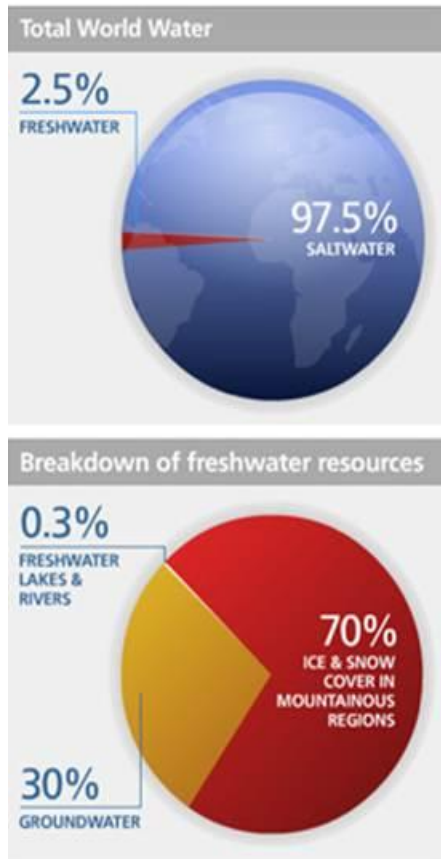
Maribeth B. Malloy  
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**100** YEARS OF  
ACCELERATING  
TOMORROW

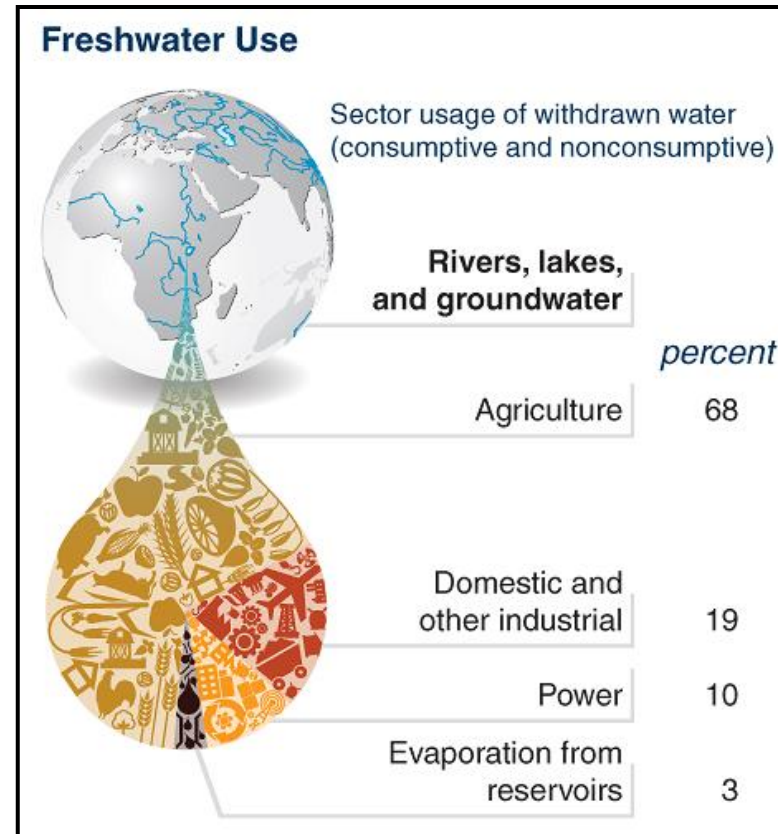
# Energy Intensity



# Global Water Use



Source: [http://www.unwater.org/statistics\\_res.html](http://www.unwater.org/statistics_res.html)



Source: National Intelligence Council Water Research, Rich Engel, 2012  
[www.wilsoncenter.org/sites/default/files/Engel%20Presentation.pdf](http://www.wilsoncenter.org/sites/default/files/Engel%20Presentation.pdf)

**Limited Availability, Increasing Demand**



# Global Water Issues



[www.water.cc/](http://www.water.cc/)



[http://images.nationalgeographic.com/wpf/media-live/photos/000/419/cache/thailand-floods-unesco-gate\\_41930\\_600x450.jpg](http://images.nationalgeographic.com/wpf/media-live/photos/000/419/cache/thailand-floods-unesco-gate_41930_600x450.jpg)



<http://peakwater.org/tag/water-shortage/>



Source: New York Times,  
<http://www.nytimes.com/2009/02/12/us/12drought.html>  
<http://www.nytimes.com/2009/02/12/us/12drought.html>



# Sustainable Energy Solutions

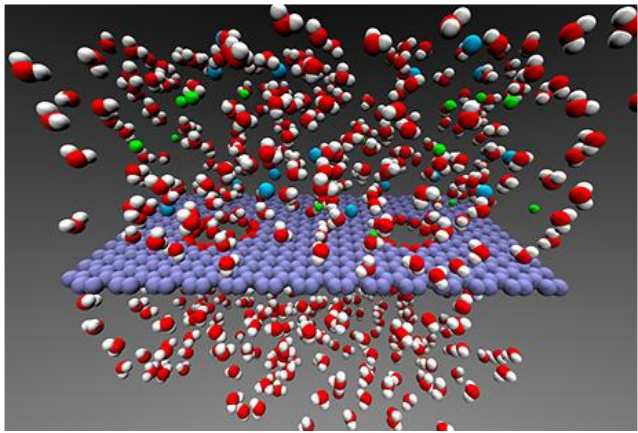


# Climate Change Opportunities

**Geostationary Operational Environmental  
Satellite R-Series (GOES-R)  
Space-Based Climate Monitoring**



**Perforene™  
Sustainable Water**



**Ocean Thermal Energy  
Conversion**



**SEEsuite Energy Management  
Systems**



**Nanotechnology  
Light Weighting of Products**





# Partnership Thought Starters

- Infrastructure
  - Sensor networks
    - Leak detection
    - Real-time monitoring
  - Cyber security – pull out quote from threat assessment which called out terrorist threats to water supply
- Innovation
  - Energy alternatives with lower water intensity (energy generation which does not require a steam phase to turn turbines)
  - Apply technology to reduce Agricultural water use
  - Space-based monitoring of farmland conditions (soil quality, local freshwater availability, etc.)
    - Advanced ground-based sensors
    - Advanced/localized weather predictions

# Partnership Thought Starters

- Industry Partnerships
  - Universities with Agriculture Colleges, Energy Programs, etc.
  - Federal Government (national security, space-based programs)
  - State and Local governments
  - Water purveyors
  - Energy companies / utilities





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