

Good practices to reduce water consumption

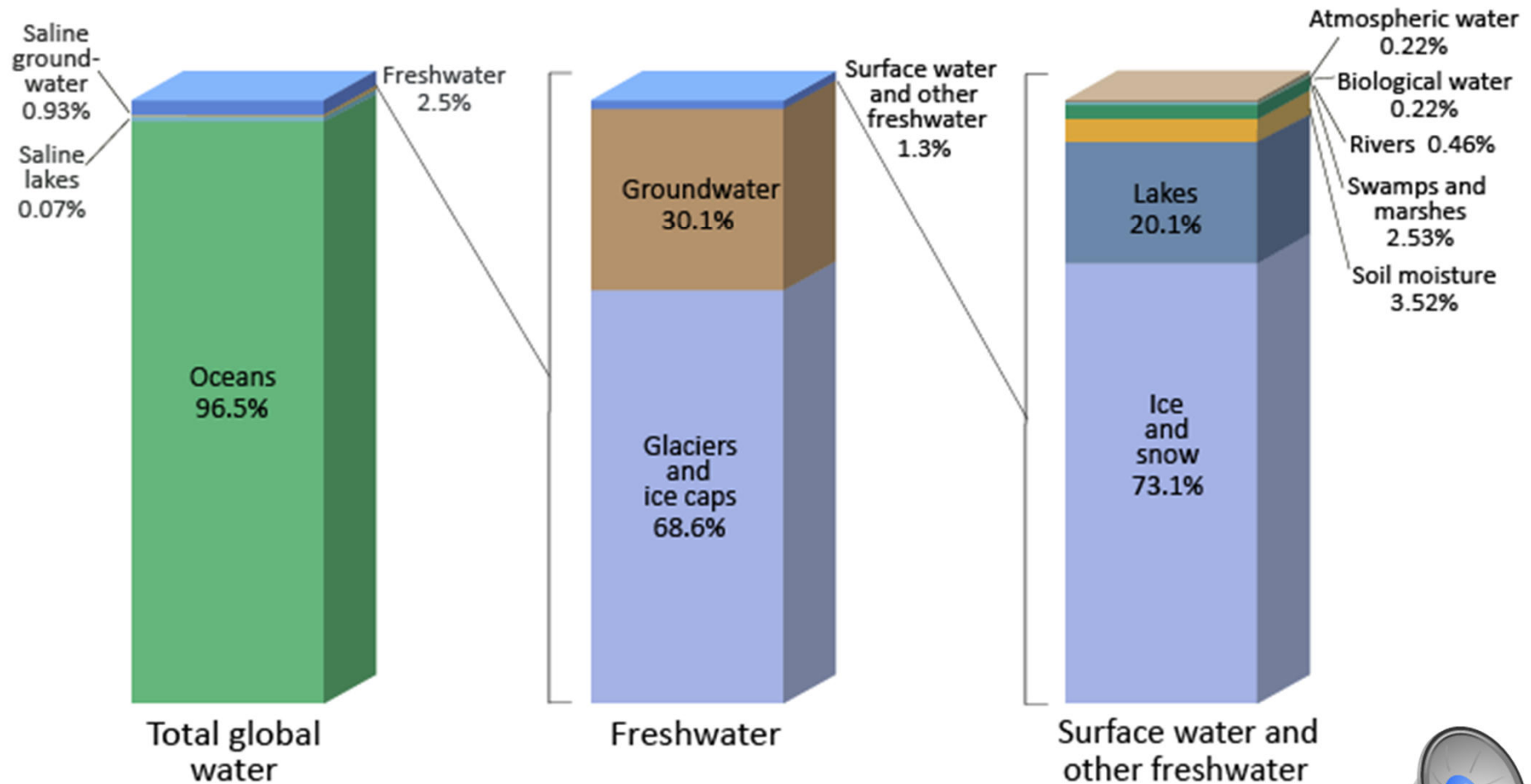
Johanna von Toggenburg

Ravenna 2013

International Conference: New Indicators for a better world



Distribution of Earth's Water



Source: Igor Shiklomanov's chapter "World fresh water resources" in Peter H. Gleick (editor), 1993, *Water in Crisis: A Guide to the World's Fresh Water Resources*.

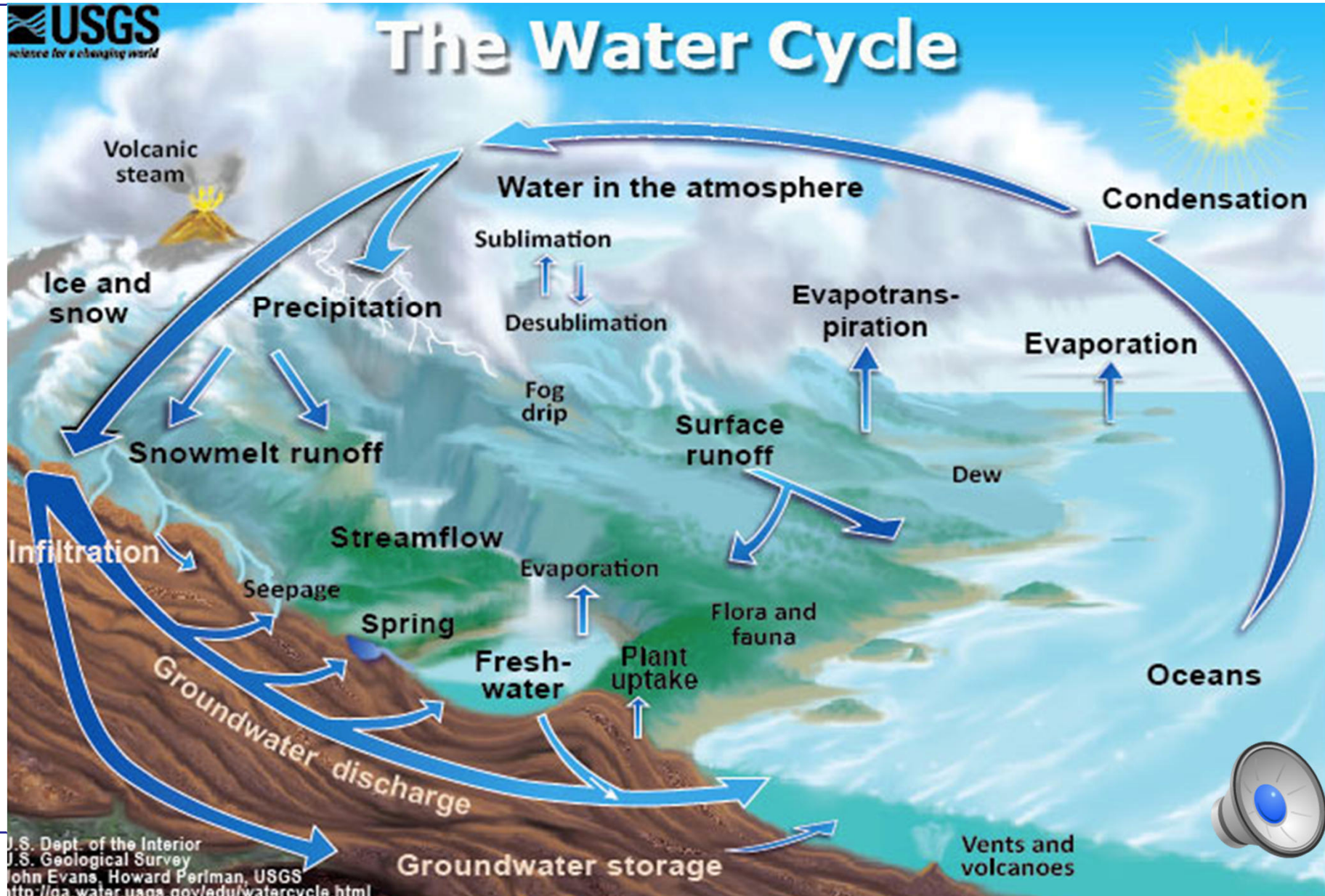




www.ecologic.eu

Ecologic Institute

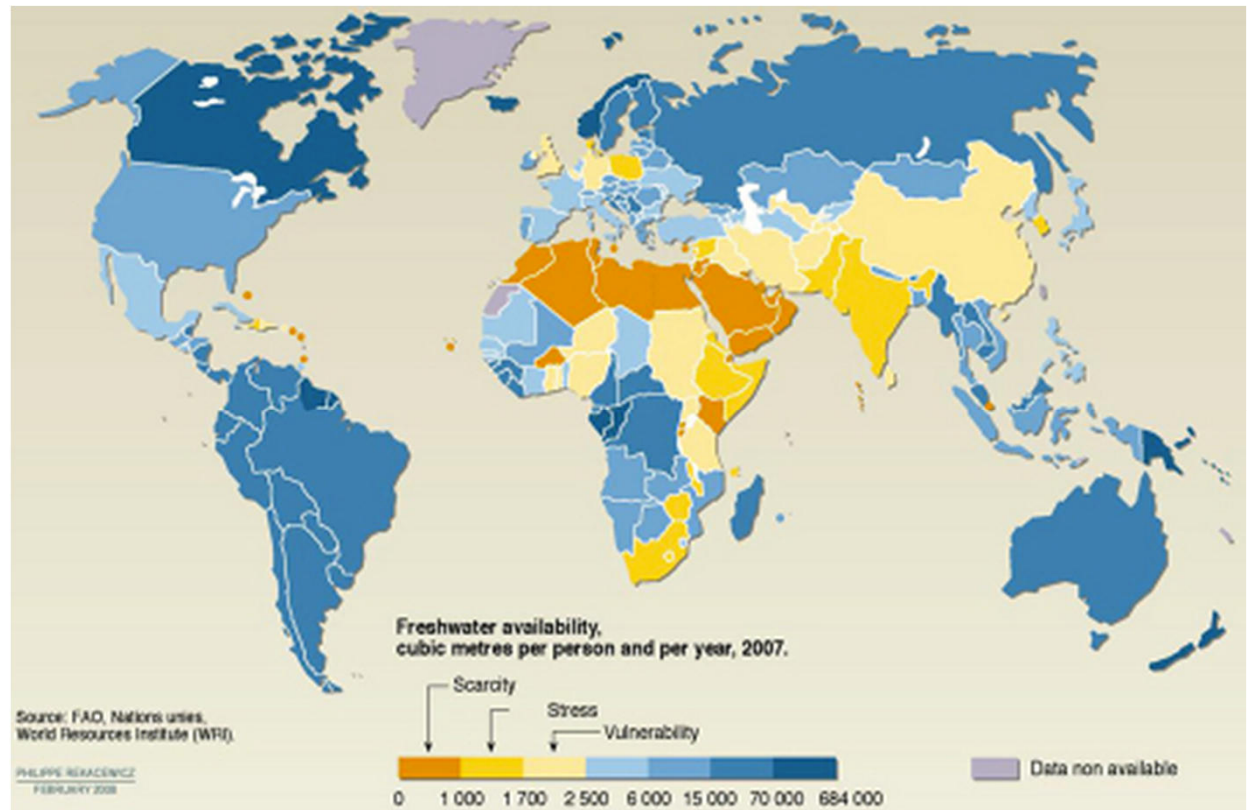
Berlin
Brussels
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Washington DC



Distribution and availability of water

- ▶ Unequal distribution of water resources
- ▶ Increased demand for freshwater
- ▶ Leads to
 - ▶ Overabstraction
 - ▶ Pollution

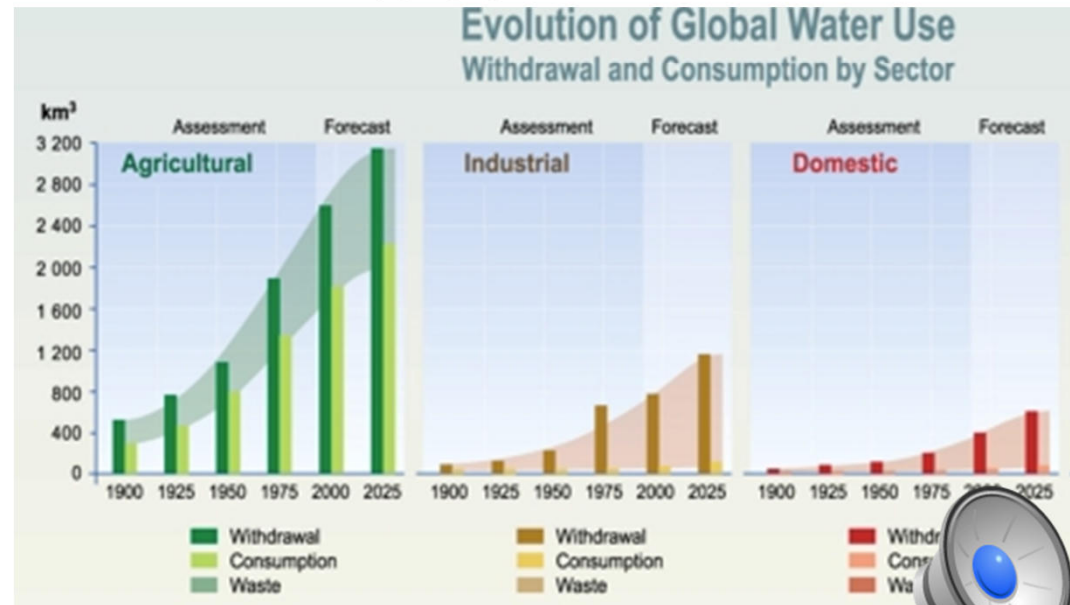
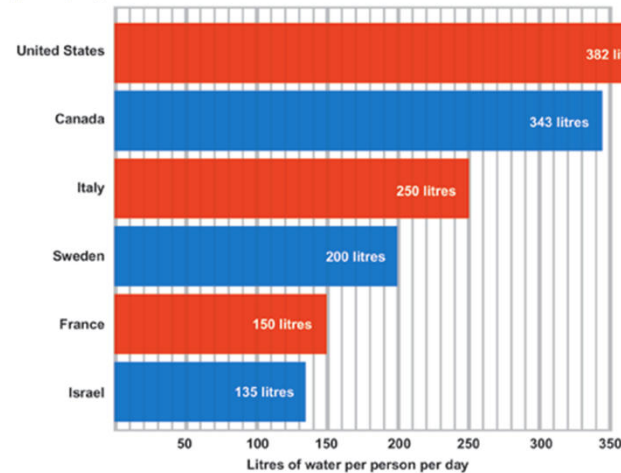
...Thus freshwater being unavailable and unfit for consumption



Water use

- UN suggests: 20-50l water per person per day for drinking, cooking and cleaning
- Largest water use for agriculture (70%), and increase strongest
- Large gap between withdrawal and use, indicating water loss

Average daily domestic water use
(per capita)



Methods to help ensure water availability

Water saving

- Reduce water consumption
- Reduce water pollution

Use efficiency

- Reduce water losses in distribution networks
- Rainwater harvesting

End of pipe

- Greywater re-use
- Wastewater re-use

Management and Economics

- Adopt a river basin approach
- Attach the right value to water



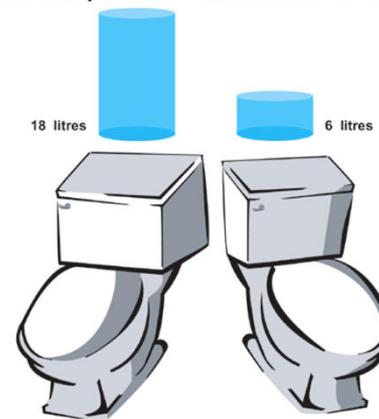
Reduce water use / water demand management

Water can be saved, without foregoing luxury

Practical Tips

- ▶ Look at your water bill
- ▶ Install a water meter
- ▶ Check for leaks
- ▶ Water saving toilet flushing
- ▶ Water saving taps and faucets
- ▶ Put a bucket/bowl under the tap whenever water is running
- ▶ Water garden in the morning or evening

Water use per flush – conventional vs. ULV toilet



Reduce water pollution at source

Practical Tips

- ▶ Don't wash oils, solvent, paints or pharmaceuticals down drains
- ▶ Store them in a safe container and take to an authorised collection centre
- ▶ Use accredited biodegradable detergents
- ▶ The Pharmas-eu.org Project assesses risks and raises social awareness about effects of pharmaceuticals in water



Watch: The Drugs We Wash Away:
Pharmaceuticals, Drinking Water
and the Environment
<http://www.youtube.com/watch?v=OYbRIJLBzn4>



Reduce water losses in distribution networks

- ▶ In some European MS, up to 50% of water abstracted is lost through leakages
- ▶ Reducing water losses is possible but costs and benefits from investing are not measured

Practical Tips

- ▶ Setting up leakage monitoring and detection systems
- ▶ introducing regulatory and customer metering policies

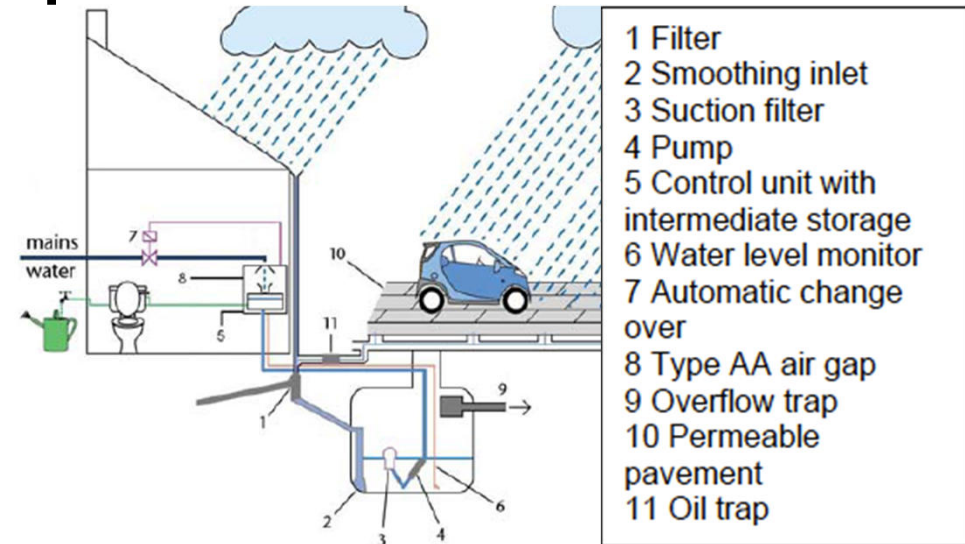


Read: EPA (2010) Control and Mitigation of Drinking Water Losses in Distribution Systems
http://water.epa.gov/type/drink/pws/sma/llsystems/upload/Water_Loss_Control_508_FINALDEc.pdf



Rainwater harvesting for non-potable domestic uses

- ▶ Collecting rainwater from a surface it falls on, that would otherwise go into the drainage system or be lost through evaporation
- ▶ Can be used for toilet flushing, garden watering, clothes washing
- ▶ Savings need to be assessed on individual basis – depends on non-potable water demand, amount of rainwater, storage space, filter efficiency, costs...



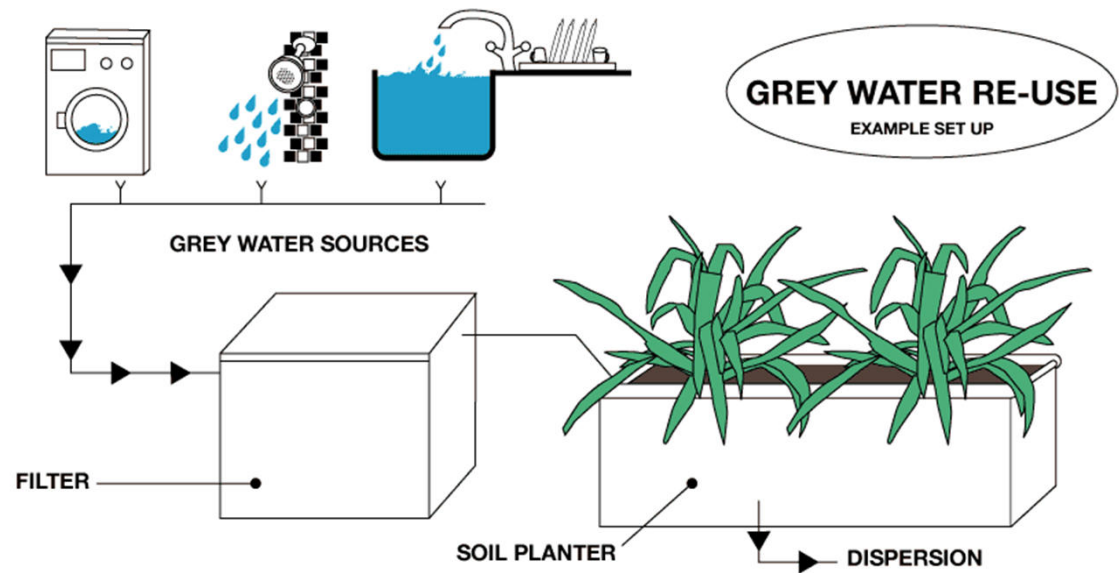
Read: Environment Agency (2010)
Harvesting rainwater for domestic uses: an
information guide

<http://www.environment-agency.gov.uk/homeandleisure/beinggreen/118948>



Greywater reuse

- ▶ Wastewater from e.g. showers, treated on site and reused for toilet and garden
- ▶ Greywater systems vary widely in complexity, price, energy use, space
- ▶ Reusing greywater at domestic scale with intensive treatment, is more energy and carbon intensive than using normal water. Better to focus on water efficiency
- ▶ More reliable and consistent than rainwater harvesting



Re-use wastewater for agricultural irrigation and other uses

- ▶ Waste water re-use has the potential to contribute to the irrigation requirements of agriculture
- ▶ Requires setting up of national or local standards for water usage or, defining guidance for good practice, information and education.
- ▶ No EU level standards for water re-use so far



Adopt a river basin approach

- ▶ Current water quantity indicators fail to provide an adequate picture of the gap between water resources use and availability
 - ▶ data are based on annual and country level statistics
 - ▶ potential for re-use or environmental constraints are not taken into account
- ▶ Quantitative water management needs to be better integrated into EU River Basin Management Plans to allow establishment of water balances and of targets on quantitative water management
- ▶ Water stress indicators applied at river basin level could help prioritize and optimize water uses



Attach the right value to water resources and its consumption

- ▶ Pricing is a supporting policy instrument to control water use (or pollution) and (re-)finance water use-related costs
- ▶ Abstraction / water use fees are not sufficiently used to promote efficiency
- ▶ The price level needs to be set to reflect the “true value and costs” of water = the costs of supplying water (financial costs) and the environmental and resource costs (economic costs).



Thank you

For questions, please email me:
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