

Water resource efficiency in Europe - seen in a technical context



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European Water Association - EWA



- ▶ Founded in 1982 as an independent, non-governmental and non-profit making association
- ▶ Network of European water associations
- ▶ 25 National members (19 EU members)
- ▶ Reaching 55,000 European individual water professionals
- ▶ 21 Corporate members

EWA Workshop on Benchmarking in June 2009



Report: EWA Yearbook 2010





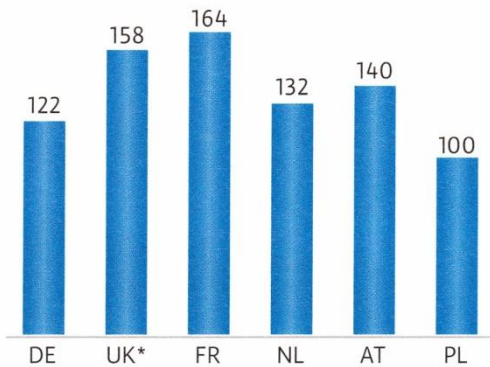
Water resource efficiency

- ▶ Water consumption
 - Households
 - Industry
 - Agriculture
- ▶ Infrastructure
 - Condition of pipes - Water losses
 - Condition of drains and sewers
 - Rehabilitation strategies
- ▶ Operation & Management
 - Sustainable operation of the plants
 - Quality management system
 - Sustainable fee system
 - Staff training

Water Consumption - Households

Comparison of per-capita water consumption on a European level

Data in litres per person and day
(status: 2007)



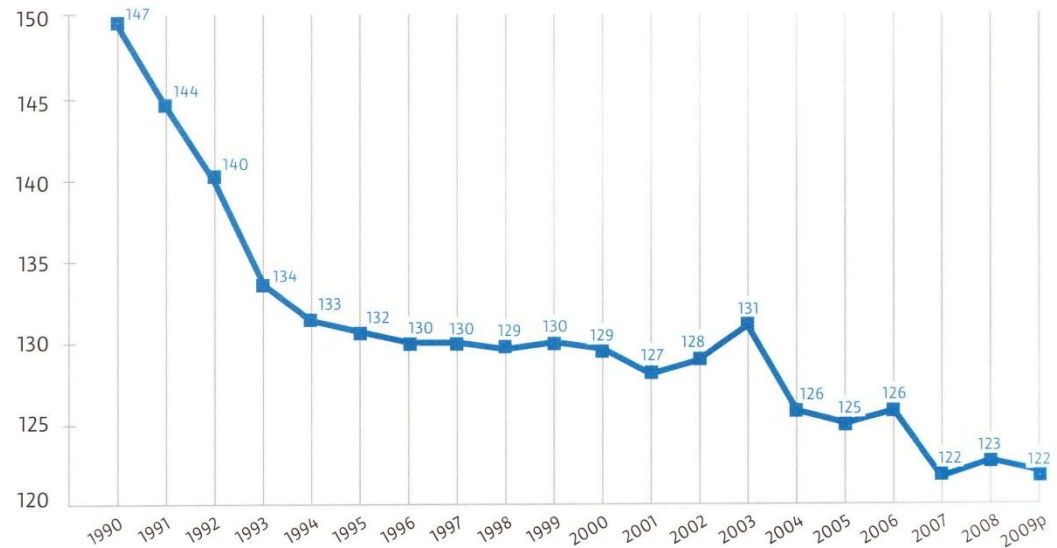
* England & Wales only

Source: VEWA Study 2010 on behalf of BDEW

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Development of the per-capita water consumption

Data in litres per person and day, Germany



Source: BDEW Water Statistics, related to households and small trades, p = provisional

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Copy out of „Profile of the German Water Sector 2011“

Water Consumption - Households



- ▶ Direct relation between water consumption and costs
- ▶ WFD demands full cost recovery (Article 9: Recovery of costs for water services)
- ▶ Modern technologies help to save water
 - ▶ Flush of toilets
 - ▶ Dish washers
 - ▶ Washing machines

Water Consumption - Industry



- ▶ WFD, Annex VI
List of measures to be included within the Programmes of Measures
 - ▶ Integrated Pollution Prevention Control Directive (IPPC-Directive)
- ▶ IPPC-Directive renewed in 2010
 - ▶ Industrial Emission Directive (24 November 2010)
 - ▶ BAT Conclusions will be implemented by law!!
- ▶ E.g. “Iron and Steel Production” (28 February 2012)
 - ▶ Increase water circulation systems
 - ▶ Using water in cascades
 - ▶ Keeping treated and untreated waste water separated

Water Consumption - Agriculture

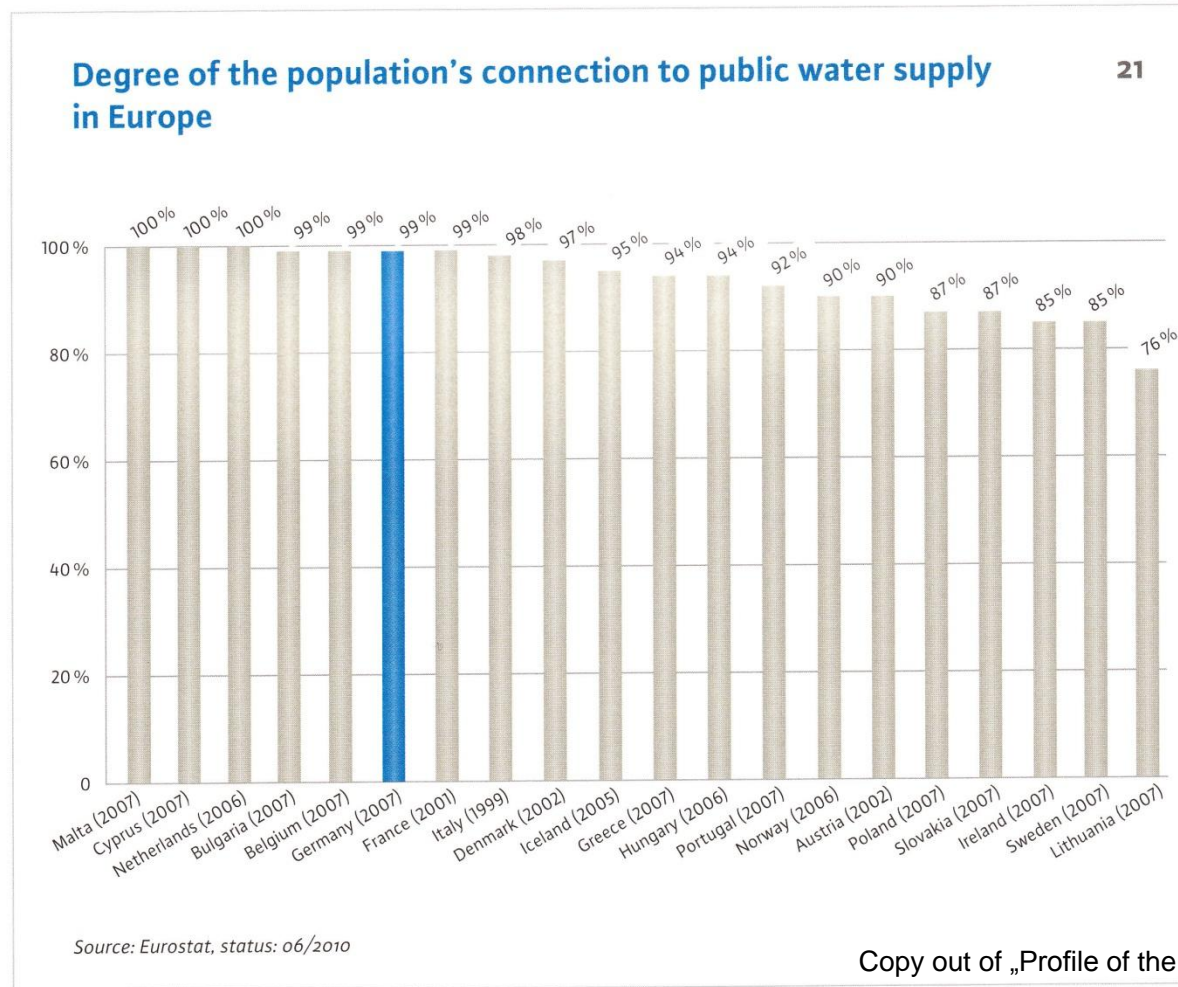


- ▶ Big differences inside Europe
- ▶ Up to 70 % of the total water consumption
- ▶ Average is around 25%

EWA Water Manifesto 3rd Edition:

EWA calls for policies recognising the interactions and variable dependencies between agriculture and water management, and stresses the importance to further develop water saving techniques in agriculture. As the biggest water consumer globally water use for agriculture is a key issue within sustainable water policy and new technology.

Infrastructure Water Supply

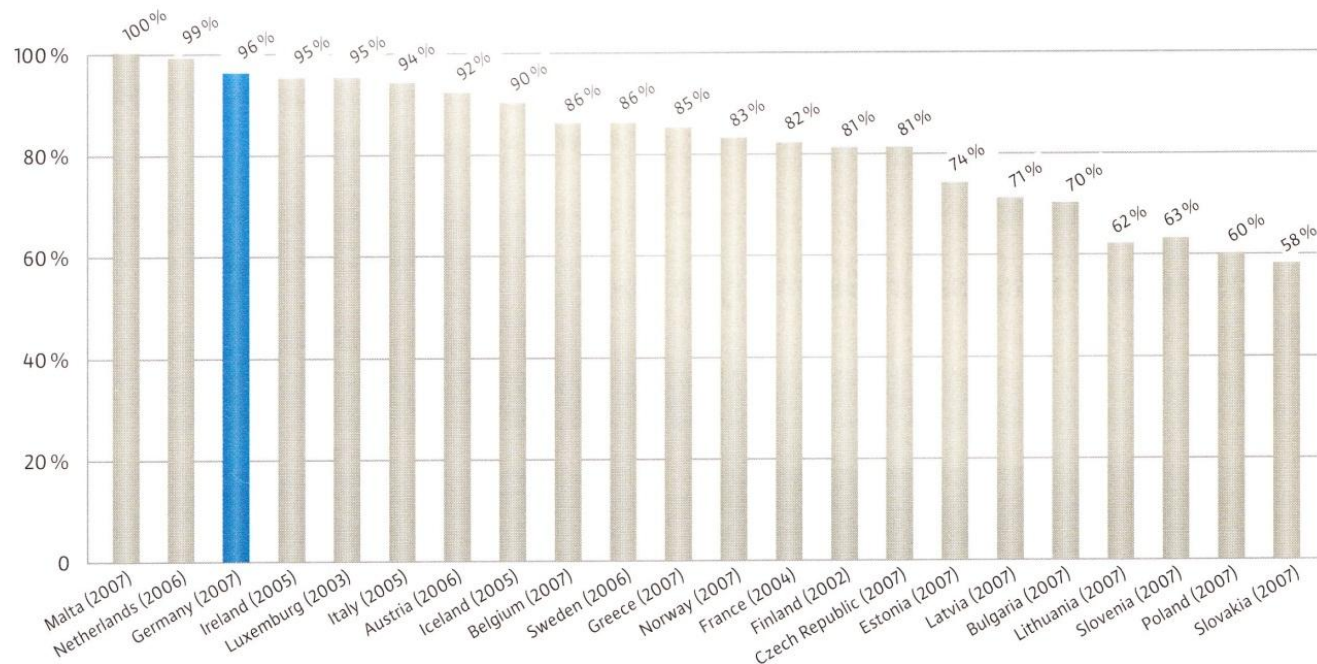


Infrastructure Public Sewage Network

Degree of the population's connection to the sewage network

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regardless of the availability of sewage purification plants



Source: Eurostat, status: 06/2010; German Federal Statistical Office

Copy out of „Profile of the German Water Sector 2011“

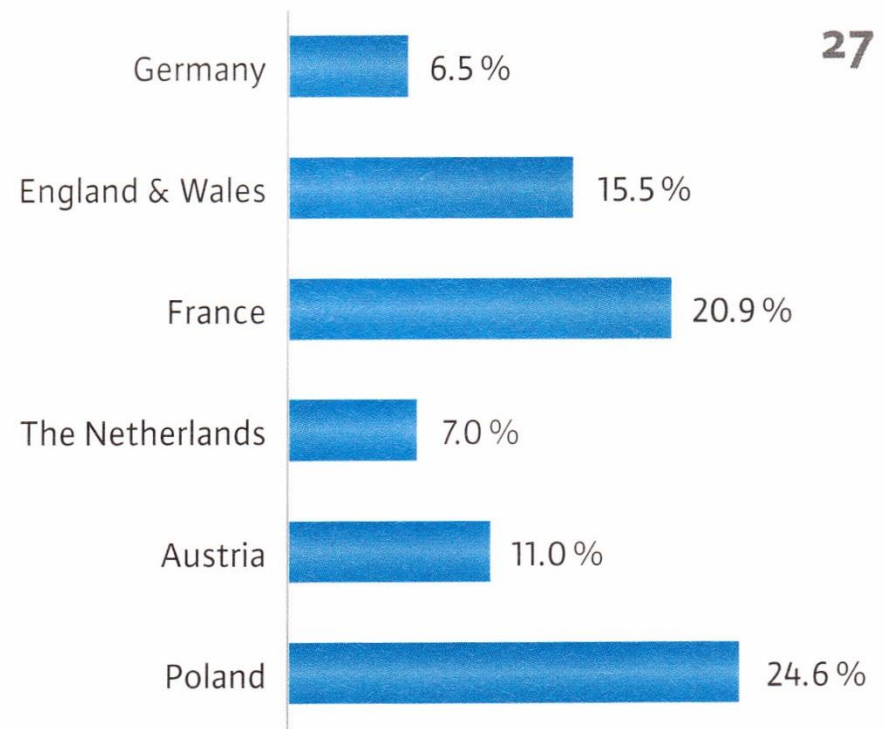
Water losses

Water losses in the public drinking water network¹⁾: most important indicator of network quality and safety of supply

Data as percent
(status 2007; for F: 2004)

¹⁾ Extractions for operational purposes and fire control were rated as losses.

Source: VEWA Study 2010 carried out on behalf of BDEW

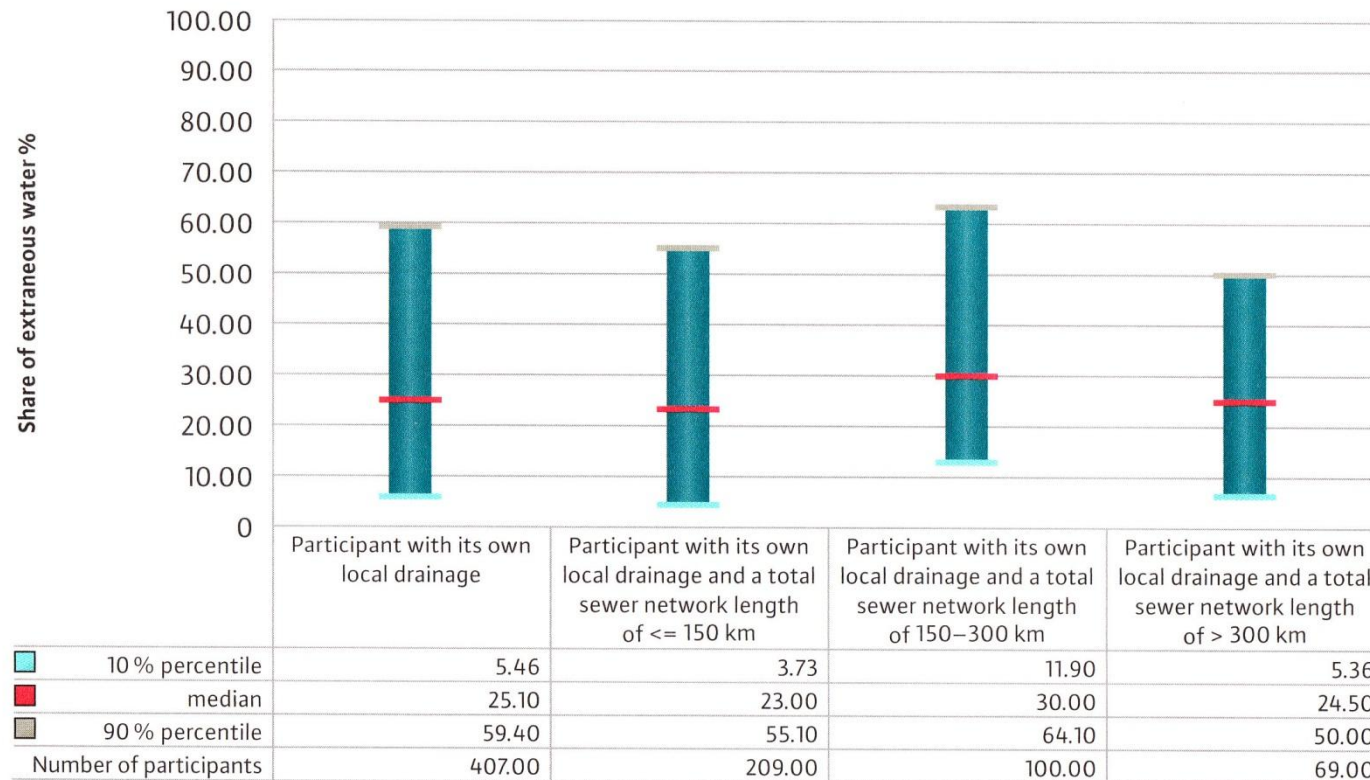


Copy out of „Profile of the German Water Sector 2011“

Tightness of Sewer Systems

Range of amounts of extraneous water

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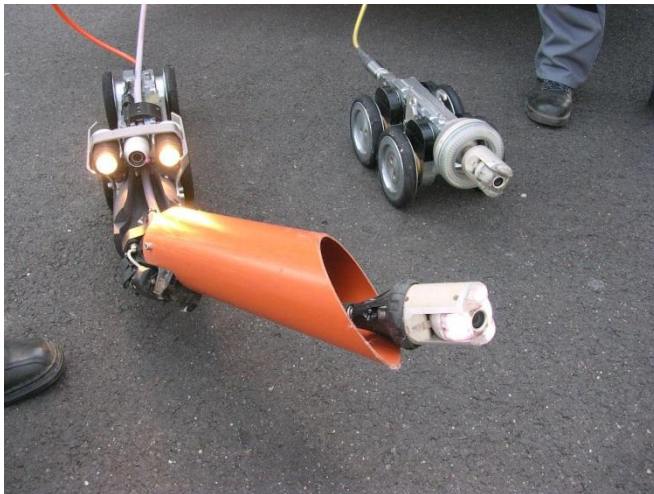
Source: DWA

Copy out of „Profile of the German Water Sector 2011“

Infrastructure



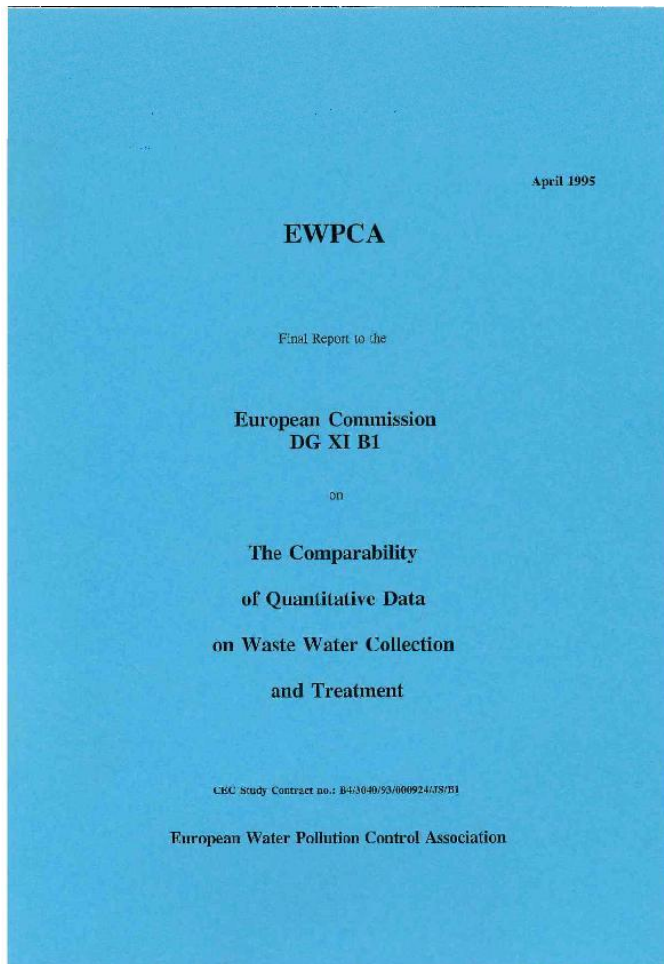
- ▶ Proper design and Construction (standards; materials ...)
- ▶ To preserve water resources a sustainable operating and maintenance is required!
- ▶ Regular inspection
- ▶ Rehabilitation strategy
- ▶ Rehabilitation of damages



Operation and Management



- ▶ Sustainable operation of the plants
 - ▶ Maintenance and Rehabilitation
 - ▶ Resource saving operation (e.g. energy saving)
- ▶ Quality Management System
- ▶ Fees System
 - ▶ Full costs recovery
- ▶ Minimize non revenue water
- ▶ Qualified staff is needed
 - ▶ Good education
 - ▶ Continuous training



- ▶ To describe resource efficiency a set of indicators is needed
- ▶ To compare efficiency clear definitions are needed!

**Don't compare
apples and oranges!**