



Future EU Policies on Drinking Water

The Evolution of the Drinking Water Directive



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The Drinking Water Directive

(very brief overview 1/3)

“The objective of this Directive is to protect **human health** from (...) any contamination of drinking water (...) by ensuring that it is wholesome and clean ”

Drinking Water is water:

- for drinking
- for cooking
- for other domestic purposes
- for (industrial) food production



Exempted are: (1) mineral waters (dir 80/777/EEC) and medicinal waters
(2) individual supplies delivering less than 10 m³/day (<50 persons)

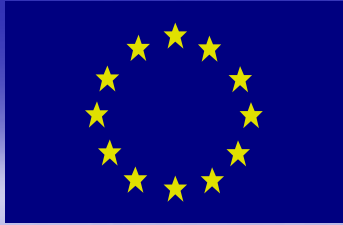


The Drinking Water Directive

(very brief overview – 2/3)

- 1998 DWD health standards largely based upon
WHO 1992 “Guidelines for Drinking Water Quality”
Scientific studies e.g. sampling study for metals, THM
Specific advice CSTE (Scientific Committee of the EC)
- To be *wholesome and clean* drinking water must conform to minimum requirements set out in the annexes of the Directive
 - Microbiological parameters (enterococci, ...)
 - Chemical parameters (nitrate, lead, ..)
 - Radiological parameters (tritium, ..)
 - Organoleptic parameters (taste, odour, colour, ..)
- Point of compliance = the tap





The Drinking Water Directive

(very brief overview – 3/3)

- Member States have a tri-annual reporting obligation
- In EU15: high degree of compliance with the Directive (95% +), but ...
 - ✓ Commission has only a view on supplies > 5000 persons !!!!
 - ✓ Any comparison of data is difficult
 - ✓ Outlook on compliance for EU12 Member States is not encouraging





Preparation of the DWD revision

Adapt to progress in science and technology

Adapt to newest health standards

Ensure consistency with EU water policy and legislation

Art.11 DWD Every 5 years review needed.





The preparation of the DWD revision

' challenges '

Implementation of Art.10 materials and chemical in contact with drinking water

Microbiological reference methods

Sampling for metals

Harmonisation of sampling and monitoring

Pesticides and “relevant” metabolites

Indicator parameters

Scope DWD: small water supplies





Stakeholder consultation in 2003: the Drinking Water Seminar





Issues for revision identified at DWS

Adopting a «Water Safety Plans» approach as the way to go

Revision of microbiological parameters

Revision of chemical parameters

Identification of small water supplies as a EU-wide cross cutting issue (WEKNOW study 2003)

Design of an 'acceptance scheme' of construction products in contact with drinking water

Establishment of standardised methods for monitoring, sampling and analysis



Revision process

Risk based approach:	Study 2004 led by WHO
Microbiology:	EMG
Chemical parameters:	DHI
EAS:	Working Group
Monitoring/sampling:	Working Group DGJRC
Reporting:	Working Group
Small supplies:	Request information EC to MS
Impact Assessment:	COWI





The revision of the Directive

Water Safety Plans

The current Directive practises an end-of-pipe approach

The water quality as checked at the tap is not always representative
(sampling practises, domestic network,)

Sampling at the tap does not offer a good protection of public health (sampling is always done too soon or too late)

In the nineties an approach was developed based upon HACCP:
Risk Assessment and Risk Management or « Water Safety Plans »

The aim of WSP is to manage water quality from capture to the consumer tap

- ✓ prevent contamination at the source
- ✓ treat water to reduce contamination
- ✓ prevent recontamination during storage and distribution



The revision of the Directive

Water Safety Plans

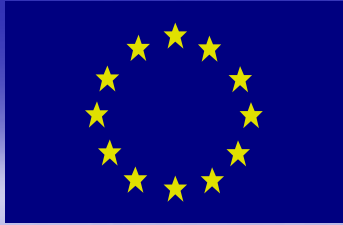
WHO-EC Project on WSP

Aim: give guidance to Commission on how to 'anchor' the concept of WSP in the revised DW legislation

A interdisciplinary project team was set up by WHO and visited 7 water supply zones in the EU + Switzerland

The project took into account large and small supplies

WHO formulated 10 recommendations to the Commission



The revision of the Directive

Revision of Microbial Parameters

EGM - Expert Group Microbiology

DG ENV and JRC Ispra have re-created a Expert Group on Microbiology

Experts appointed by the MS

Mission :

- ✓ based upon epidemiology
- ✓ make a proposal for an updated microbiological parameter matrix containing parameters/parameter values/ methods of analysis.
- ✓ in particular consider organisms indicated by the Drinking Water Seminar (legionella, protozoa, cyanobacteria, viruses, ...).
- ✓ take into account a Water Safety Plan approach.





Agreed Issues

- ***Clostridium perfringens*** to be removed from routine monitoring
- ***Escherichia coli*** and Enterococci are useful indicators
Retain and monitor with the same frequency.
- **Colony count: “no abnormal change” to be rephrased**
There is a need for another guidance value. As for example some sampling points are analysed for colony counts only once a year changes will only be observed on occasion.



Agreed Issues

Matrix of microbiological Parameters at different Sampling Points

	Source (operational)	Point of Exit (operational)	Network (operational)	Point of Entry (compliance)	Tap (compliance)
E. coli	X	X	X	X	X
Enterococci	X	X	X	X	X
coliform bacteria	X	X	X		
Colony count 22°C	X	X	X		
Colony count 36°C	X	X	X		
Clostridium	X	X	X		



The revision of the Directive

Revision of Chemical Parameters



Objective of the study contract :

Based upon toxicology

Make a proposal for an updated chemical parameter matrix containing parameters/parameter values/ methods of analysis.

In particular consider chemicals that have newly come into focus (new pesticides, metabolites, ...)

Consider a WSP approach for building the parameter matrix



No of Member States suggesting new and deleted parameters

New

Chlorate	7	Microcystin	5	Magnesium	2
Min Total Hardness	5	Uranium	4	Calcium	2
Chlorite	5	Zinc	3	Corrosivity	2

Delete

Selenium	11	Cyanide	6	1,2-dichloroethane	2
Epichlorohydrin	9	Mercury	6	Arsenic	2
Acrylamide	7	Vinyl chloride	5		



Provisional list of parameters to delete

(disclaimer EC)

Benzene

Cyanide

1,2 dichloroethane

Mercury

Aldrin, dieldrin, heptachlor, -epoxide

Total pesticides

Oxidisability

Sulphate

Selenium

Tritium





Provisional list of parameters to add

(disclaimer EC)

Chlorite	'Disinfection BP', don't compromise disinfection.
Chlorate	'Disinfection BP', present in sodium hypochlorite, don't compromise disinfection.
Chloroacetic acids	Disinfection conditions that may reduce THMs can encourage formation of chloroacetic acids. Other authorities have regulated. Need to seriously consider adding
Totalchloroacetic acids	Assuming effects are similar and additive.
Uranium	WHO value of 15 µg/l likely to go up on review. Important for small supplies.



The revision of the Directive Small Supplies



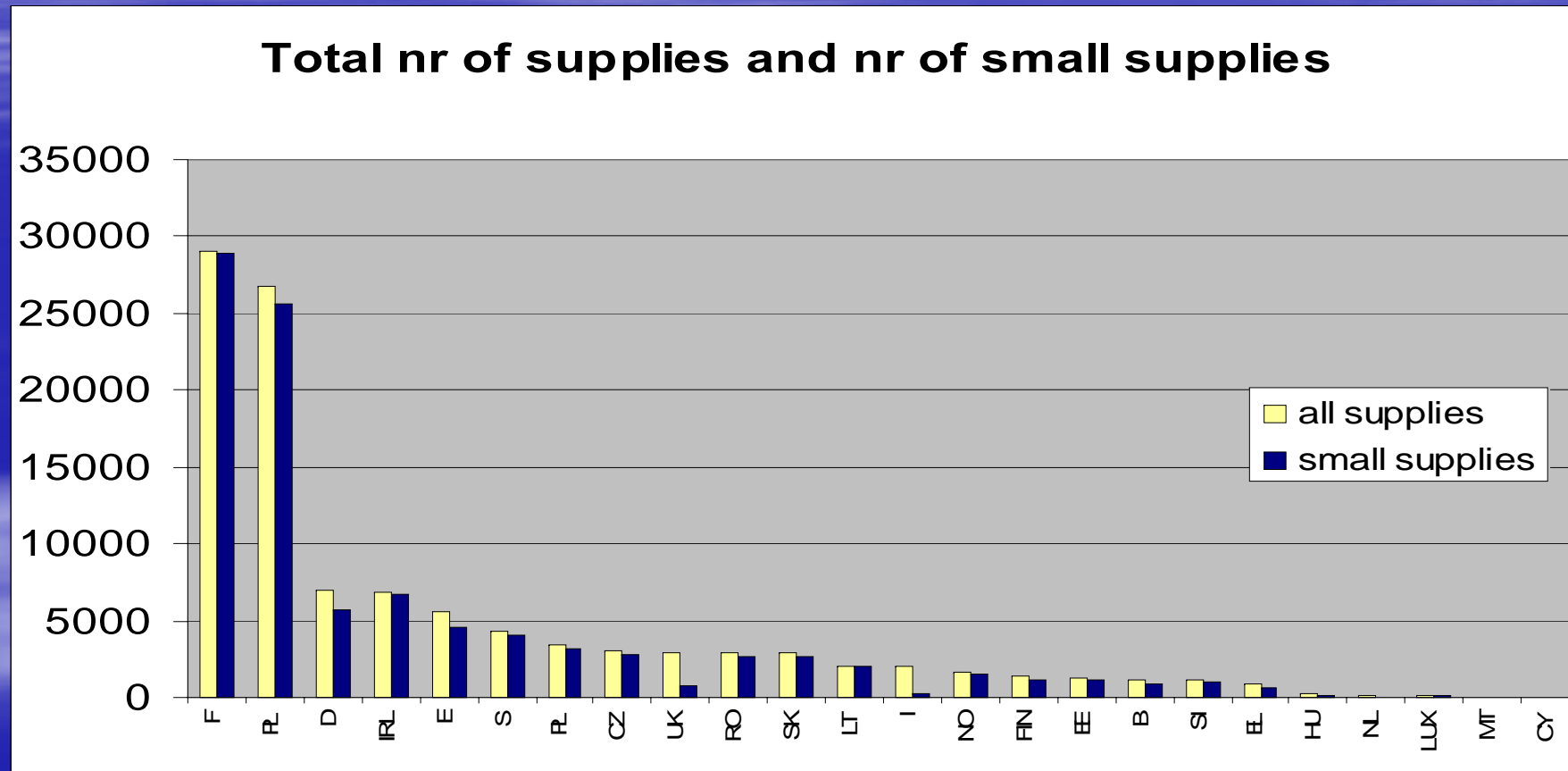
*A European inventory of small
water systems and associated
problems (2004)*

Conclusion: “SMALL SYSTEMS LARGE PROBLEMS”

- Inventory based upon data from 21 countries
- Small : < 5000 persons Very small : < 50 persons
- At least 10% of the EU population gets drinking water from small or very small supplies
- We do not have reliable information on the number of small supplies or on the number of EU citizens that receive their water from these supplies.
- But WEKNOW there are big problems with water quality and with health issues.



Small Supplies





Questions to the Member States

Can all (very) small water supplies be monitored and sampled as nowadays foreseen for large supplies by the Drinking Water Directive, including reporting?

Can the RA/RM WSP approach in the Drinking Water Directive be extended to all WSZ regardless of the size?

Can the Member States accept a role to make the WSP concept known to all their consumers, regardless of the size of the WSZ?

Do we need to better know about the extent and the seriousness of health related risks of (very) small water supplies in the EU?





EC request to Member States

Based on Art.10 of the Treaty EC

January 2009 request for aggregated statistical information on the monitoring results for water supplies for which the DWD applies no reporting obligation.

10 – 1000 m³/day, including public wells but not private wells





Information requested



➤ General information on number, water supplied, population served and water source:

- 10 – 100 m³/day
- 100 – 400 m³/day
- 400 – 1000 m³/day

➤ Compliance/non-compliance A, B and C parameters

➤ Monitoring frequency

➤ Remedial actions



Sampling and monitoring - scope

- **Sampling procedure influences the reported quality**
 - **Member States have developed their own sampling procedures**
 - **Quality among Member States is not comparable**
 - **Compliance monitoring is not sufficient for supplying safe drinking water**
- ▶ **Advice on the harmonisation of**
- Sampling points
 - Sample protocols
 - Sample frequencies
- For the revision of the Drinking Water Directive**





Sampling and monitoring - definitions

- **Compliance monitoring**

is the monitoring specified by the Directive at the point of compliance to verify that water supplied for human consumption is in compliance with its quality requirements and the results are subject to its reporting requirements.

- **Operational monitoring**

is the monitoring activity to check the quality of source water, and to validate the operation of the water treatment plant, the distribution network and the domestic distribution system up to the tap. The results of operational monitoring are not subject to the reporting requirements of the directive.



Reporting to the EC

- Reporting guidelines are available
- Internet based harmonised reporting system
- Reporting through Reportnet into WISE
Water information System for Europe
- Since 2008 Member States can directly report through WISE
- Use of WISE not yet obligatory

The poster features the WISE logo at the top, with the text 'WATER INFORMATION SYSTEM FOR EUROPE' underneath. Below this, the title 'Water Information System for Europe' is displayed in a large, blue font. Underneath the title, the text 'POLICY • THEMES AND DATA • PROJECTS' is written in a smaller, green font. The central part of the poster contains three small images: a map of Europe, a scenic view of a river, and a screenshot of a website. Below these images, the slogan 'Your gateway to water!' is written in a green, italicized font. At the bottom of the poster, the website address 'water.europa.eu' is displayed in a white box. The bottom of the poster also features the European Commission logo and a photograph of people working at a table. At the very bottom, there is a small text block: 'WISE is an initiative from the Directorate-General for Environment of the European Commission, in cooperation with the Joint Research Centre, Eurostat and the European Environment Agency.'



Assessment of Impacts for the Revision of the Drinking Water Directive

The options of the impact assessment

- a. No action is undertaken – no revision
- b. Adapt the microbiological and chemical parameters to the state of the art
- c. Introduce the concept of Water Safety Plans (WSP)
- d. Combine the adaptation of parameters with the introduction of Water Safety Plans





Assessment of Impacts for the Revision of the Drinking Water Directive

Comparing the options

- (a) **(no change)** Is not the preferred option: the current legal framework is not optimal for reaching the objectives of the Drinking Water Directive!
- (b) **(updating the parameters)** Is a partial solution, which ignores the well accepted drinking water safety approach.
- (c) **(introducing WSP)** This option would ignore the evolution in epidemiology and toxicology and would lead to wasting resources.
- (d) **(combined option: parameter update + WSP)** This option is the preferred option, combining advantages of options (b) and (c). Would maximize health, social and economic gains and allow for subsidiary actions.





The revision of the Directive

- Timing:
- 2007 – 2008 extensive stakeholder consultation
- Proposal expected for October 2009
- All documents available from the website:
ec.europa.eu/environment/water
- Positions are invited now or by mail
- jan.cortvriend@ec.europa.eu





THANK YOU FOR YOUR ATTENTION

