

# Study supporting the revision of the EU Drinking Water Directive



## Safe Water for Europe: issues and options

*Second stakeholder's  
consultation workshop*

*Brussels, 8<sup>th</sup> of December 2015*

# Table of Contents

- I. Opening session: setting the scene
- II. Evaluation of the DWD – main outcomes
- III. Looking ahead – how will drinking water (quality) and the implementation of the DWD evolve in the future?
- IV. Working Groups – Which possible adaptations in the DWD or alternative policy options could be considered?
- V. The way forward: IA and DG ENV

# Safe Water for Europe: issues and options

*Second stakeholder's consultation workshop*



## Session I

### Opening session: setting the scene

*Brussels, 8<sup>th</sup> of December 2015*

# The second stakeholder workshop: what for?



## Objectives:

- To validate the shortcomings of the current EU Drinking Water policy (DWD) identified, along with their main underlying causes;
- To identify areas for improvements (options) that could help strengthening current EU Drinking Water policy;
- To collect views on the feasibility and potential impacts of these options



## Clarifying questions, expectations from participants

# Safe Water for Europe: issues and options

*Second stakeholder's consultation workshop*



## Session II

### *Evaluation of the 1998 EU Drinking Water Directive: Main results*

*Brussels, 8<sup>th</sup> of December 2015*

# Objective and overall conclusion



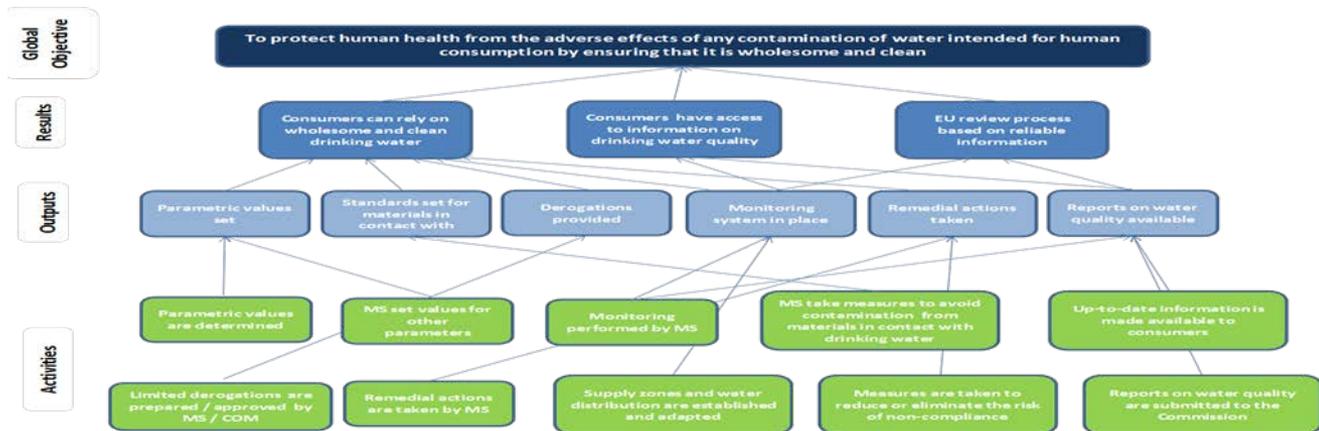
**Objective** of the study is to evaluate the DWD.  
Has the DWD been effective, efficient, coherent, relevant and did it provide value added at EU level?  
The evaluation covers the period 1998-2014.

**Conclusion:** the DWD is fit for purpose. The Directive ...

- Is a relevant piece of legislation
- Protects the health of EU citizens
- Efficient mechanisms to implement measures
- Provides added value at EU level

# Methodology

- The **intervention logic** shows links between policy goals, activities, actors and intended outcomes.



- Link **evaluation questions** to **judgement criteria** and **indicators**.

# Sources of information

We used:

- Policy documents, position papers, legislation.
- Key parameters on water quality (MS reports)
- Costs and benefits associated with the DWD
- Interviews (30) with key stakeholders
- Stakeholder conference (70 participants)
- Public Consultation (5,875 responses, position papers from 56 institutions and 80 citizens)

Limitations regarding information gathering:

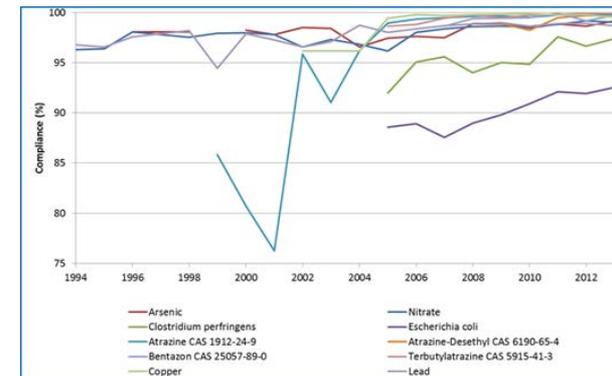
- Uneven quality and quantity of data among MS
- Information not fit for counterfactual analysis
- Difficult to quantify benefits related to the DWD

# Effectiveness (EQ1)

To what extent has the DWD achieved its objectives?

The DWD provided a better protection of human health from the adverse effects of any contamination

**Most significant** → effect of the DWD was seen in the increase in compliance for parameters related to materials in contact with drinking water.



**Less convincing** → evidence exists for several agricultural/ catchment related parameters.

# Effectiveness (EQ2)

## Which provisions have been most appropriate?

- Setting **parameters** has reduced (microbiological) outbreaks
- **Monitoring** parametric values useful but often below requirement
- Most **remedial actions** are related to microbiological parameters
- **Derogations** allowed MS to apply parameter values at feasible pace.
- **Article 10** is important but there are problems with implementation
- **Reporting** MS to the Commission effective, but of insufficient quality
- Quality of **information** to consumers below expectations
- **Review process** time-consuming but justified

# Effectiveness (EQ3)

What main factors, in particular related to water bodies, agriculture and distribution networks, have influenced or stood in the way of achieving the objectives of the DWD?

- Land use important factor for concentration of parameters
- Important difference in response time of groundwater and surface water bodies when considering impact of emission of unwanted substances. Difference not taken into account.
- In absence of process oriented monitoring, compliance at the tap remains the most effective method to guarantee the objective of wholesome and clean drinking water.

# Effectiveness (EQ4&5)

What results beyond the aim to protect human health?  
Other unexpected or unintended changes?

- Increased awareness on drinking water quality
- Additional environmental legislation (Nitrate Directive)
- Improved quality of domestic wastewater
- Increased attention for materials in contact with drinking water.

# Efficiency (EQ6)

Are the costs related to the implementation of the DWD justified, given the benefits which have been achieved?

- Total cost of the drinking water sector in 2014: €46.5 billion
- Of this amount 18% (€8 billion) can be attributed to DWD
- None of the benefits could be monetized.
- Value for lead significant welfare benefits across Europe.
- Other notable benefits of DWD:
  - Aesthetic improvements
  - EU regulatory framework
  - Improvement of drinking water quality across all MS
- Benefits outweigh total costs (expert judgement)

# Efficiency (EQ7)

Technical or other developments which have contributed to achieving the objectives more efficiently?

➤ Yes, such as

- new approaches to and techniques of monitoring leading to faster decision making
- quality systems (ISO) introduced
- Increasing awareness of water consumption at the consumer level
- technical innovations (e.g. sensor technology)

# Efficiency (EQ8) & Coherence (EQ9)

To what extent does the Directive allow for efficient policy monitoring?

- MS reporting to the Commission is found valuable for policy monitoring. But .... efficiency low as result of:
  - Inconsistency in methods of reporting
  - Low frequency (once every 3 years)
  - Low quality of some reporting

Are DWD provisions internally coherent?

Yes! Only minor issues such as the Article 10 provision in relation to the parametric values of Annex I.

# Coherence (EQ 10 & 11)

To what extent are the DWD provisions externally coherent and which effects did the DWD have in areas targeted by other EU legislation?

- DWD is coherent with Directives regulating food quality and other agricultural products, but has little or no added value of *regulating corresponding parameters*
- *The coherence of the DWD with the Water Framework Directive (WFD) is especially important as the protection of drinking water resources is established as an indispensable part of the plans and measures under the WFD.*
- *This has made the WFD the most relevant for the quality of drinking water.*

# Relevance (EQ12-1)

To what extent is the DWD approach to protect human health from the adverse effects of any contamination of drinking water still appropriate?

- Guaranteed level of drinking water quality for all MS.
- More consistent regulatory framework compared to < 1998
- Relevance of provisions:
  - Reporting requirements result in better transparency.
  - Microbiological parameters considered most relevant indicators of water quality

# Relevance (EQ12-2)

- 
- Reporting requirements result in better transparency.
  - Microbiological parameters most relevant indicators
  - Indicator parameters (colour, taste) no # values & subjective
  - Monitoring actions relevant, but inconsistent among MS
  - Derogations (Article 9) “convenient”, but relevance become less with improved performance.
  - Remedial actions (Article 8) important tool for MS, but only effective after incident occurred
  - Information to consumers important but additional efforts needed to satisfy increasing demand for information.

# Relevance (EQ 13 & 14)

Which other parameters than those currently set in the DWD have become more important for human health?

- Others such as Chromium Cr, VI, Perfluorinated compounds, some types of endocrine disrupting compounds, and nanoparticles.

Any obsolete provisions in the Directive?

- The relevance of setting some parameter values due to new legislation such as Directive 2009/54/EC on natural mineral waters.

# Relevance (EQ 15 & 16)

Why has the DWD not been adapted to technical and scientific progress?

- No adaptation of the DWD needed up to now.
- Changes in the legislation and technical developments (ICT/WISE reporting), lead to benefits on efficiency.

What are citizens' expectations for the role of the EU to ensure drinking water quality?

- Yes, but growing demand of citizens regarding information provision and participation

# EU added value (EQ 17)

## What has been the EU added value of the Directive?

- DWD provided incentives (and budgets) for utilities throughout EU to improve distribution networks.
- MS progressing towards same level of drinking water quality
- Common body of knowledge on parameters and monitoring techniques
- Increased awareness on drinking water quality
- MS can optimize processes and share resources, resulting in efficiency gains
- Cost savings industry (clean water available for production) and harmonization of production standards across borders.

# EU added value (EQ18)

## Comparison EU legislation with legislation in similar regions outside the EU?

There are lessons to be learned from other countries (USA, Canada, Australia and New Zealand):

- Monitoring practices such as risk-based approach based on local characteristics and the so-called '95% confidence' approach.
- Active involvement of the public in various stages of the water management process (USA)



**Draft evaluation report available on**  
**<http://www.safe2drink.eu/dwd-evaluation/>**

**Comments on the report:**  
**[safe2drink@ecorys.com](mailto:safe2drink@ecorys.com)**

**Comments received up to December 14, CoB can be taken  
into account**

# Safe Water for Europe: issues and options

*Second stakeholder's consultation workshop*



## Session III

**Looking ahead: how will drinking water (quality) and the implementation of the DWD evolve in the future?**

*Brussels, 8<sup>th</sup> of December 2015*

# Outline

## Objectives

- To identify future trends in drinking water (quality) and the implementation of the DWD

## Structure

- Presentation by Ecorys - 'How would the drinking water quality and the implementation of the DWD evolve in the future (without a revision of the DWD)?
- Open (structured) discussion

## Expected outcome

- Clarification of key drivers and of their (expected) impacts
- Which problems are expected to remain, be solved, emerge?

# Baseline explained



The baseline scenario presents the development and the future changes up to 2030/2050 if no changes will be made in the Drinking Water Directive.

Based on a number of assumptions with respect to social, technological and climate changes and assuming **no new legislative changes** which directly affect drinking water quality, we look at the trends of the major parameters that determine the quality of drinking water.

# Drivers and issues

Two main questions to discuss:

1. What are the key drivers and factors that are likely to affect – positively or negatively, directly or indirectly – the implementation of the DWD in coming years?
2. Which problems are expected to remain, be solved, emerge?

# (main) Topics

- 
- Climate change
  - Monitoring and analysis (new technologies)
  - Infrastructure (new materials)
  - Consumers (more demanding)

# Climate change (1)



Increase in temperature can result in:

- Improved conditions for waterborne bacteria, parasites and viruses to thrive;
- increased bacterial growth in lakes and coastal waters
- Increased release of particles from pipes and plumbing systems of drinking water network
- Increased degradation rate of some pesticides and other organic pollutants
- Lower efficiency of some pollutant treatment processes

# Climate change (2)



Changes in precipitation patterns can result in:

- Increase in the frequency and intensity of droughts leading to i) reduced river flows, reduced aquifer recharge; and ii) reduced dilution of potential pollutants, increase in turbidity and sedimentation, increased water temperature
- Increase in the frequency and intensity of floods can lead to i) increased load of pollutants washed from soils, from urban areas and from overflows of sewage systems; and ii) higher risks of damage to water supply and treatment infrastructure

# Monitoring and analysis requirements



## Monitoring and analysis requirements

- How to deal with new/emerging substances? Microplastics, pharmaceutical products, softeners etc. are increasingly entering the water cycle
- New technologies for analysis will become available (e.g. using molecular methods instead of microbiology based on the growth of colonies).
- Household and industrial water metering will continue to increase. (In many countries and in relation to agriculture water use metering is still limited).
- Increased pressure on water utilities to reduce their environmental footprint

# Materials and chemicals used in treatment and distribution systems



- ➔ Continued and increasing risk of separate (national) approval systems, causing additional expenses and diminishing opportunities for operating in EU wide markets

# Consumers



Increasing demand for more and better information on drinking water by consumers (what are the risks? do I pay a fair price?)

Improvements in reporting on water quality and pricing (both more accurate data and better communication) will be limited.

# General discussion on the following issues



1. What possible (additional) health risks and problems are likely to arise – and should be tackled?
2. What are other key drivers and factors that are likely to affect – positively or negatively, directly or indirectly – the implementation of the DWD in coming years?
3. Which drivers/problems should be tackled in priority – and how?

# Safe Water for Europe: issues and options

*Second stakeholder's consultation workshop*



## Session IV

**Which possible adaptations in the DWD or alternative policy options could be considered?**

*Brussels, 8<sup>th</sup> of December 2015*

# The focus of the session



## Identifying “improvements” that would enhance the effectiveness of current EU drinking water policy

**Brings clear added value**

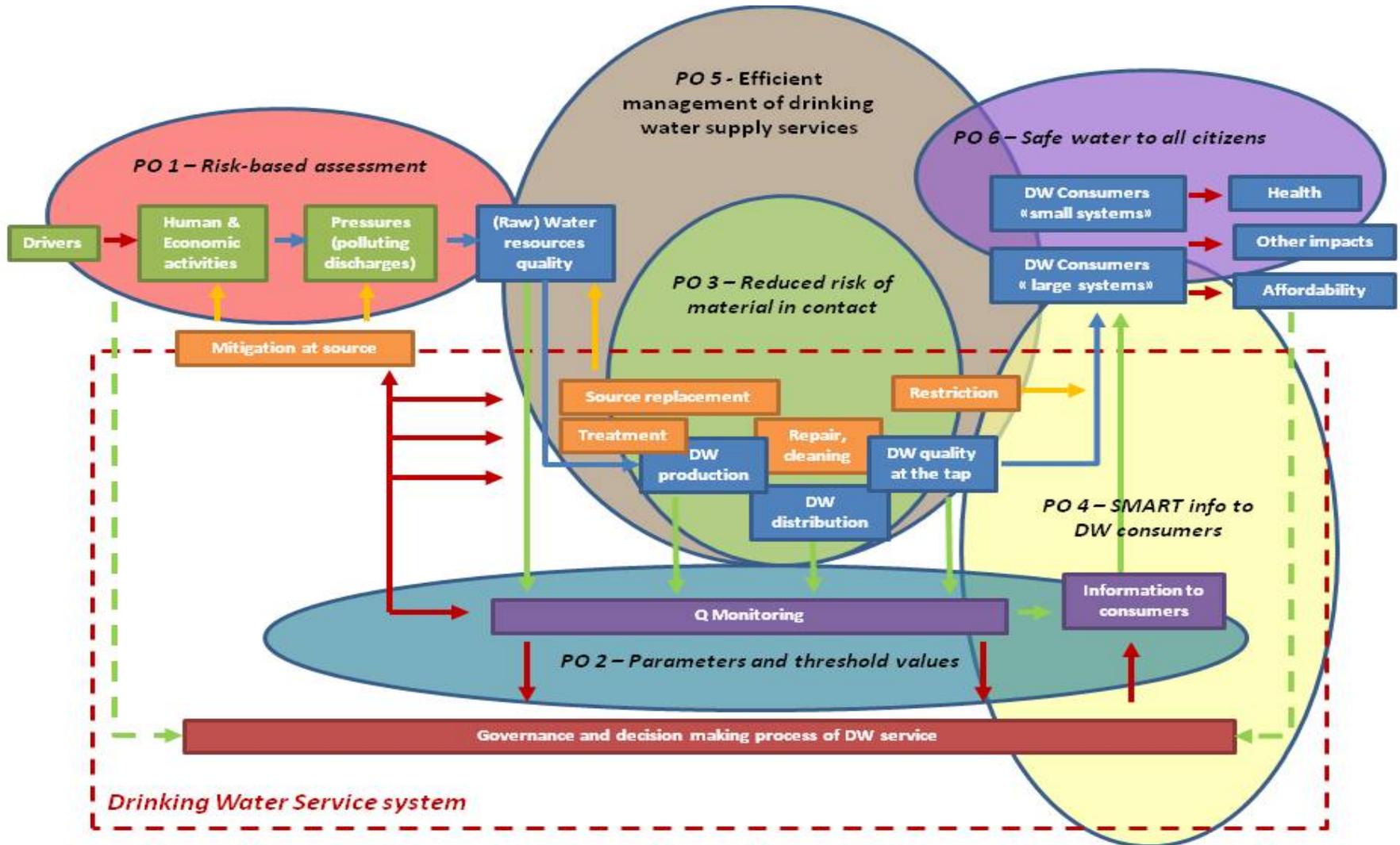
**Is feasible and “acceptable”**

**Has overall benefits (and/or acceptable negative impacts)**

....



# The thematic areas for which improvements could be proposed



# The proposed options under thematic area (1)

## 1. Risk based assessment – beyond compliance at the tap

### ***Policy Option 1.1. Water Safety Plan Risk Based Approach***

This policy option will require the establishment of a Water Safety Plan for specific Water Safety Zones (WSZ) building on a rigorous risk-based assessment and monitoring accounting for all pollution sources and solutions. This option will have certain flexibility for the MS.



### ***Policy Option 1.2. Fully-fledged Water Safety Plan Risk Based Approach***

This policy option will further extend policy option 1.1 with wider responsibilities of the drinking water service provider including control of abstraction, the implementation of catchment area measures, and obligations on treatment. It will define minimum requirements on the process for establishing the Water Safety Plan, on its content (including methods such as cost-effectiveness assessment for selecting remedial measures) and on how to control/approve/implement the plan. The requirements in this option will be made EU wide.



# The proposed options under thematic area (2)

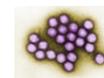
2. Selection of parameters and threshold values	
<p><b><i>Policy option 2.1: A core list of parameters with threshold values</i></b> Common regulation of quality standards (compliance &amp; monitoring) following World Health Organisation (WHO) values for a limited number of core parameters posing high risks for human health</p>	
<p><b><i>Policy option 2.2 A longer list of parameters with strict threshold parameters and accounting for the precautionary principle</i></b> Parameters with strict threshold values, expanding from the WHO list by including more microbiological parameters and reduced threshold values for key chemical parameters</p>	
<p><b><i>Policy option 2.3: A wider list of parameters including emerging substances</i></b> Regulation of a wide number of parameters (20-50% more ambitious) and a higher safety distance between monitoring values of individual pollutants and total values for groups of pollutants, including emerging pollutants as soon as these are identified even if risk unknown (wider application of the precautionary principle)</p>	

# The proposed options under thematic area (3)

## 3. Controlling the risk of pollution from material in contact with drinking water

### ***Policy option 3.1 Regulation for products in contact with drinking water***

Controlling the risk of pollution from material in contact with drinking water. Development of a separate product regulation for materials in contact with drinking water – similar to the existing regulation on materials in contact with food products



# The proposed options under thematic area (4)

## 4. SMART information for consumers

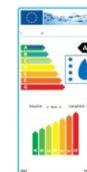
### ***Policy option 4.1. Access to information for reporting threshold values using IT tools***

Transparency on drinking water quality driven by MS. General obligations on access to up-to-date information on (a) water quality (once analyses area approved) and (b) actions taken and mobilization of other authorities if exceedance of threshold values. Building on the wider use of IT tools for easy access developed and maintained at the MS level, closely linked to MS reporting obligations (considering provisions similar to those proposed under the Environmental Impact Assessment Directive 2014/52/EU and its arrangements for informing the public; requires a wider reporting system with larger set of indicators reported to the EC, considering SIIF.



### ***Policy option 4.2. The “Safe Drinking Water Label” of water service suppliers***

Driven by the drinking water service sector, this option aims at developing a “drinking water label” given to water service providers based on their performance in providing safe drinking water. It includes: the establishment of the label; its application by individual water service providers and its monitoring by an independent body; regular benchmarking between water service providers for identifying service providers that are performing well/bad, along with factors that might explain good/bad performance.... The label will be displayed at specific internet sites and reported in annual reports of water service companies. It will be accessible via a mobile phone application. Yearly information campaign on drinking water quality and the performance of drinking water service suppliers will be also implemented.



### ***Policy option 4.3. Smart water information systems***

The establishment of smart water information systems will provide a wide range of up-to-date information to (actual and potential) consumers linked to: water quality, leakages, investments, water tariffs and pricing, etc.. It will include an on-line system/ mobile App and yearly information campaign. The ‘Smart system’ will have an online processing of aggregated up-to-date water quality data for any given location (via GPS & Copernicus) allowing to see online the most recent water quality data per water service provider/street/plot/household. National and EU reports will be made readily available via easily accessible internet sites (“push of a button” approach).



# The proposed options under thematic area (5)

## 5. Ensuring resource efficiency and the efficient management of water services

### ***Policy option 5.1 High performance to deliver safe drinking water***

This option proposes to develop a wider performance system for monitoring the performance of water service operators in delivering safe drinking water in compliance with the objectives of the DWD. The performance system will address a range of issues, including: delivery of safe drinking water quality, cost-efficiency in delivering safe drinking water, impacts on water tariffs of delivering safe water, satisfaction of final consumers, timeliness and adequacy of responses to problems, etc.



### ***Policy option 5.2 Responsible drinking water service operators***

This option proposes to develop a wider performance system for monitoring the performance of water service operators as key to enhance efficiency and the performance of drinking water service operators. Performance will address a range of management, efficiency and environmental footprint issues: delivery of safe drinking water quality, water resource management (in terms of quality and quantity) and its efficiency, conveyance efficiency, water savings, energy efficiency and emissions of CO<sup>2</sup>/GHG, satisfaction of final consumers, timeliness and adequacy of responses to problems, etc. Drinking water operators will be responsible for implementing actions that will enhance their overall performance and footprint including in terms of application of measures such as water reuse, water saving, rain-water harvesting, etc.



### ***Policy option 5.3 Efficient management of the water (service) cycle***

This policy option expands the previous policy option by applying the development of a performance system water efficiency to a wider “drinking water cum sewage/wastewater system” and bring the responsibility to water service operators to enhance the performance of its management and operation.



### ***Policy option 5.4. Governance: Responsible consumers***

This policy option addresses governance issues, promoting a wider involvement of consumers in the management of drinking water services. at the drinking water service level and at the national level



# The proposed options under thematic area (6)

## 6. Safe drinking water for all EU citizens

### ***Policy option 6.1. Access to safe drinking water for all***

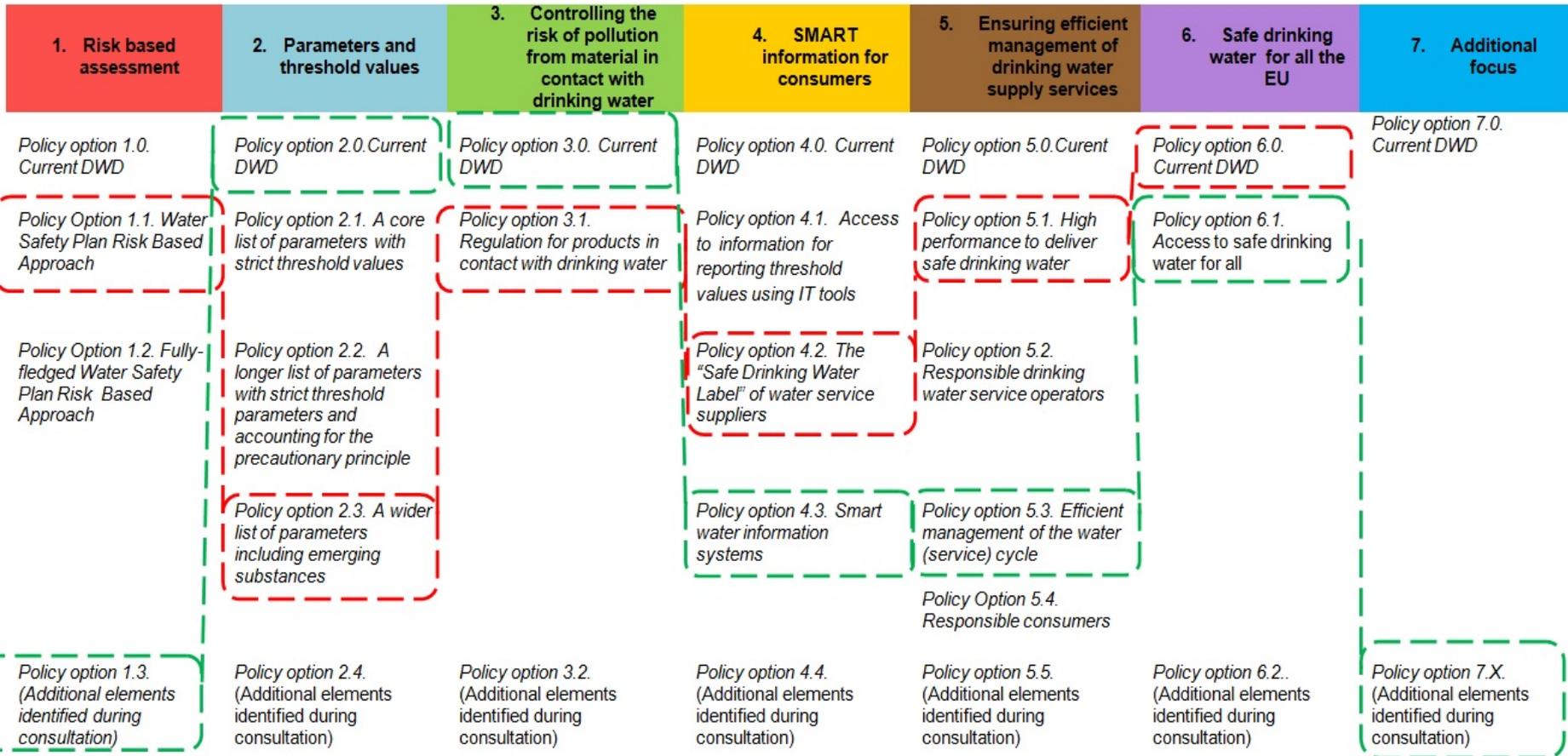
This option extends the current obligation to provide safe drinking water to all citizens, expanding the drinking water quality standards of the current Drinking Water Directive to all small communities and any person living in Europe (including Roman populations, migrants....).



# Key issues underlying the options identified

- 
- Different **policy instruments** could be proposed for putting policy options into practice
  - Each expected to have different **pre-conditions** for success and efficiency (including adaptation in current governance, mobilization of financial resources/financing, provisions for linking to other directives and policies, capacity building, etc.. )
  - Potential **derogations** or exemptions under any given policy for addressing expected “negative impacts” (e.g. applied temporarily or permanently, addressing differences in contexts, types of water services and social groups, applied at the household, water service or MS levels...)

# Towards a coherent policy change?



# Working in breakout groups (1)



Four groups addressing different thematic issues

1. **Groups 1 & 2** – dealing with thematic areas 1, 2 & 3 (risk-based management, parameters and Article 10 related issues)
2. **Groups 3 & 4** - dealing with thematic areas 4, 5 and 6 – (Information to consumers, efficient water management, and subordinated access to water)

# Working in breakout groups (2)

A working group session in four steps:

1. Recap the objectives and rules of the
2. Discuss the policy options identified under the thematic areas: **reviewing and clarifying them, proposing new options (and justifying their relevance), identifying the priority/most appropriate option(s)**
3. For the preferred policy option(s) identified, discuss:
  - (a) **pre-conditions for success**
  - (b) **expected efforts and costs**
  - (c) **expected main positive and negative impacts**
4. Preparing **synthesis** (key messages) of the working group discussion for reporting to the plenary session

# Working in breakout groups (3)

## Who does what?

- ✓ Facilitators from Ecorys, KWR and ACTeon
  - ✓ Group 1 - Gérard
  - ✓ Group 2 - Joachim
  - ✓ Group 3 - Erik
  - ✓ Group 4 - Pierre
- ✓ Proposed rapporteurs
  - ✓ Group 1 - Darragh Page (EPA)
  - ✓ Group 2 - Tony Frost (AquaFocus)
  - ✓ Group 3 - Carla Ciaretta (Eureau)
  - ✓ Group 4 - Ans Versteegh (RVO)

# Working in breakout groups (4)

## Reminding key principles of WG sessions

- ✓ Openness
- ✓ Fair share of time!
- ✓ Outside the box
- ✓ Enjoying





## Questions about Working Group sessions?

# Safe Water for Europe: issues and options

*Second stakeholder's consultation workshop*



## Session V

The way forward; who, what  
and when

- *IA phase*
- *DG ENV*

*Brussels, 8<sup>th</sup> of December 2015*

# The way forward – Impact Assessment phase



- ✓ Taking stock of input from stakeholders during the consultation – final policy options
  - ✓ Immediate feedback until end 2015
  - ✓ Position Papers until end January 2016
- ✓ Further detail IA approach
- ✓ Obtain needed data through available sources and contacts in various impacted sectors
- ✓ Finalize report in May

# The way forward – DG ENV

2016:

- Commission Staff Working Document on the Evaluation
- Then possibly: Inception Impact Assessment
- Study on materials in contact with drinking water
- Possibly Cooperation Project WHO on parameters

Meetings:

- ✓ 21 Jan: Seminar Drinking Water Protection
- ✓ 22 Jan: Drinking Water Expert Group

# Closing



We thank all stakeholders for participating