



## **PRELIMINARY REGARDING ECONOMICS AND WFD**

***What room and what role  
for economics?***

EcoEcoA

 14

 45'

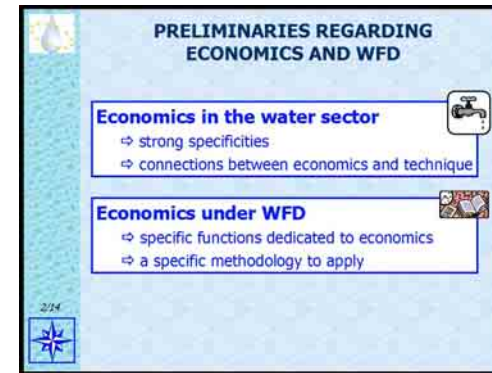
## COMMENTS

### Key ideas

Structure of the presentation:

- part 1: Economics in the water sector  
For several reasons, the water sector is very specific as regards economics. This is to be taken into account when addressing water economics, and so it is when working on economic aspects of WFD (particularly water pricing and recovery of costs)
- part 2: Economics under WFD  
Although this presentation doesn't aim at delivering a general view of where are economics in WFD, what type of economic tools are implemented, etc., it is important to remind the expectations linked to the use of economics and the conditions under which they are to be used.

*Go further*



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2/14



## YOUR NOTES

## COMMENTS

### Key ideas

Part 1 - Economics in the water sector

Water management is a specific issue: it includes questions linked to natural environment as well as to water utilities. Therefore, the use of economics will have to take account of this specificity.

Besides, as WFD refers to some specific aspects of the use of economics (e.g. water pricing policies), some introductory statements have to be made regarding these aspects.

### Go further

PRELIMINARIES REGARDING ECONOMICS AND WFD

- Economics in the water sector**
  - ⇒ strong specificities
  - ⇒ connections between economics and technique
- Economics under WFD**
  - ⇒ specific functions dedicated to economics
  - ⇒ a specific methodology to apply

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3/14



1

## YOUR NOTES

## COMMENTS

### Key ideas

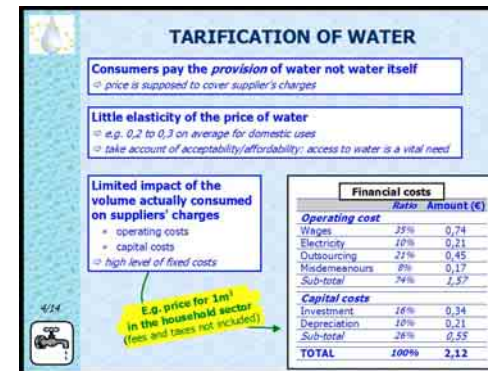
Tarification of water is a specific issue for several reasons:

- in most countries (a major exception is Ireland), consumers don't pay water itself: the price intends to cover (to various degrees) supplier's charges i.e. to pay the provision of water (abstraction, pipes, treatments, depreciation, etc.). This point is very important when considering water-pricing, as some charges may be linked to externalities. E.g. if groundwater is too polluted by nitrogen, specific treatment has to be ensured in order to make water drinkable. In practice, domestic consumers pay for this whereas this extra-treatment is made necessary by agriculture.

This statement connects the question of water-pricing with the implementation of the polluter pays principle and of the issue of recovery of costs.

- though the price of water may be a good incentive for sustainable use of water, it is to be considered in different terms if applied to drinking water or to industrial one for instance, as the elasticity and the affordability may be highly different. Besides, drinking water provision generates a wide majority of fixed costs, which have to be covered no matter the consumption (up to 80% in many cases). Therefore, lower consumption may lead to higher prices, what is to be taken into account when thinking about water-pricing.

### Go further



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4/14



2

## YOUR NOTES

## COMMENTS

### Key ideas

Financial flows linked to the use of water are complex and vary according to the type of water:

- e.g. the real level of subsidy (identified when working on cost recovery) awarded directly or indirectly will not be the same for all sectors (household, agriculture, industry)
- e.g. income may come from several sources, depending on the sector (e.g. consumers for drinking water), on the provision pattern (e.g. self-supplied irrigation water), etc.
- different types of fees and taxes may apply, depending on the type of use, the origins of water, etc.

It is important to have a good view of this several combinations as it will be highly useful when working on the recovery of costs: all financial flows linked to the use of water will have to be identified and quantified.

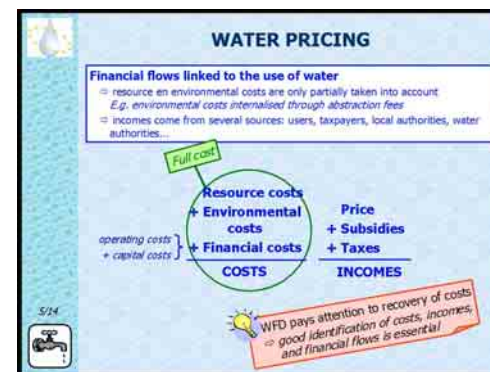
### Go further

Commission's Communication "*Pricing policies for enhancing the sustainability of water resources*", 07/2000 (COM(2000)477)

[http://europa.eu.int/comm/environment/docum/00477\\_en.htm](http://europa.eu.int/comm/environment/docum/00477_en.htm)

"*Pricing water - Economics, environment and society*". Conference proceedings, Sintra, September 1999

<http://europa.eu.int/comm/environment/pubs/economics.htm>



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5/14



4

## YOUR NOTES

## COMMENTS

### Key ideas

As indicated, the water utilities sector (drinking water production and distribution; wastewater treatment) is a capital intensive one, as are all networks activities: initial investments for pipes and plants are huge, operation costs of utilities are high and require more and more expertise.

Therefore, long-term implications have to be carefully considered when deciding for one option vs. another, because of such high costs (i.e. little reversibility).

Capital costs (investment, depreciation) are another key point: they weight around 25% of the price of 1 m<sup>3</sup> of drinking water. It is essential to have this in mind when considering investments, water-pricing policies, costs of several measures, etc. Besides, concern for recovery of costs requires to integrate as well as possible production costs (e.g. depollution), among other capital costs. Therefore, it is not acceptable to choose unrealistic or artificial actualisation rates, depreciation periods, etc.

### Go further

**WATER UTILITIES:  
A CAPITAL INTENSIVE SECTOR**

**High costs for water supply and wastewater treatment**

- ⇒ e.g. 1m of pipe >300 € (in France)
- ⇒ e.g. production of drinking water from reservoir ~1,5 € / m<sup>3</sup>
- ⇒ e.g. denitrification ~0,21 € / m<sup>3</sup> - treatment of pesticides ~0,06 € / m<sup>3</sup>
- ⇒ e.g. wastewater treatment plant ~0,56 / kg BOD5 treated

**Long term implications of decision-making**

- ⇒ e.g. collective vs. individual treatment systems in low-density areas?
- ⇒ e.g. technological options: drinking water production from wetlands or from reservoirs?

**Take account of depreciation and renewal of infrastructures**

- ⇒ when building scenarios of evolutions in the district
- ⇒ when estimating costs of measures and assessing their financial impact

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6/14



3

## YOUR NOTES

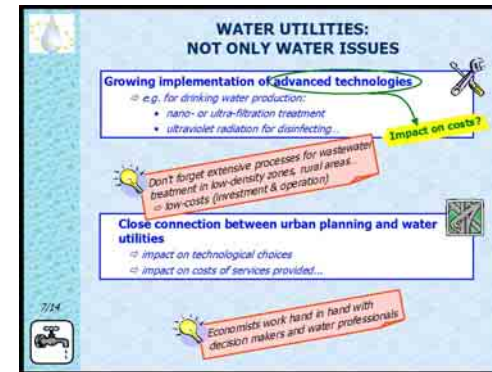
## COMMENTS

### Key ideas

Lots of high technologies are implemented in water utilities, for the production of drinking water as well as for the treatment of wastewater. This is often costly (investment, operation costs) and may lead to consider alternatives to building new plants: individual vs. collective wastewater treatment systems in rural areas, denitrification plants vs. co-operative agreements with farmers for alternative production patterns, etc. Such alternatives, when considered, have to be addressed globally: e.g. wetlands don't solely treat water, they also reduce flood impact. This has an positive economic impact which is to be assessed.

Therefore, water utilities related issues go far beyond water issue and require co-operation of several types of actors. In WFD context, this will particularly apply regarding water-pricing policies and recovery of costs, although water utilities are only one side of the subject.

### Go further



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7/14

4

## YOUR NOTES

## COMMENTS

### Key ideas

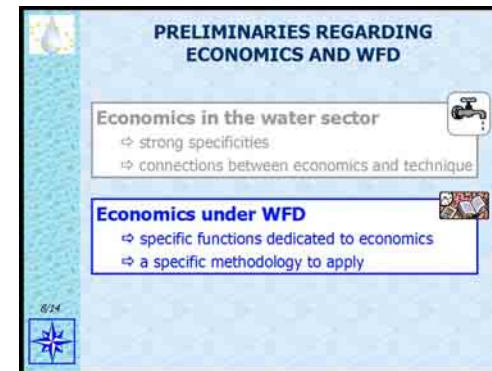
Part 2- Economics under WFD

The following slides set some general aspects connected to the use of economic tools in the implementation of WFD: specific procedures are organised, reference documents are to be applied...

Thus, conditions for the involvement of economists in the process are quite specific.

### Go further

Presentation WP-EcoA provides elements regarding the scale issue applied to data collection and use.



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8/14



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## YOUR NOTES

## COMMENTS

### Key ideas

Deep interactions between water management and economics, as planned by WFD, are very new for all:

- water actors are not used to implement economic concepts, to choose measures in the light of economic ranking, to use water-pricing as a tool and not only as a way to finance utilities, etc.
- most economists are not familiar with water management concepts, issues and constraints. From this point of view, WFD is even more specific: indeed, although economists are generally involved in order to calculate costs, etc., they will be integrated in a wider process under WFD. E.g. public participation will often lead them to ensure clear explanations, not too theoretical, etc.

For both parties, this will be very new thus. Mutual efforts will be required, necessarily based on transparency. E.g. economic analysis will always combine economic and technical aspects. All experts involved will have to co-operate for a collective result.

### Go further



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9/14



4

## YOUR NOTES

## COMMENTS

### Key ideas

### Key ideas

Economics play a specific role in the WFD process, both as part of the decision making process and as a tool for the implementation.

It is also essential to keep in mind that economic analyses will play a key-role in specific cases where non-compliance with the goal will be considered. Although other aspects will have to be considered (e.g. technical feasibility), economics are likely to be considered as the main factor. Therefore, specific efforts will be necessary to ensure full understanding of all parts of the information so provided, its meaning, the conditions in which it will be produced, the limits, etc.

### Note

*General comments about the use of economics apply here: the decision remains in the hands of decision-makers and economics only provide elements for a well-informed decision. Therefore, economic analyses will not come out with the decision and ready-to-apply answers. This is particularly important in the WFD context, as in many cases such analyses will only provide partial elements as data is lacking (e.g. as regards environmental costs).*

*Keep in mind that although this presentation focuses on economic aspects, they are only one side of WFD: make sure that trainees don't believe that WFD is an economic text or that everything relies on economic input.*

### Go further

**A DOUBLE ROLE FOR ECONOMICS**

**Tool for decision-making**

- provides information
- provides a better view of water uses and services
- helps assessing impacts, ranking measures...
- allows to take account of environmental costs and benefits

**Measures for the achievement of goal**

- Incentive water pricing policies
- recovery of costs
- fees, licences, fiscal measures, optimal choices
- co-operative agreements...

Effectiveness of all measures is assessed first

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10/14



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## YOUR NOTES

## COMMENTS

### Key ideas

The implementation of economic tools is inserted in WFD's context. This is fundamental. It means that economists will have to adapt to this specific context, methodology, wording, etc.

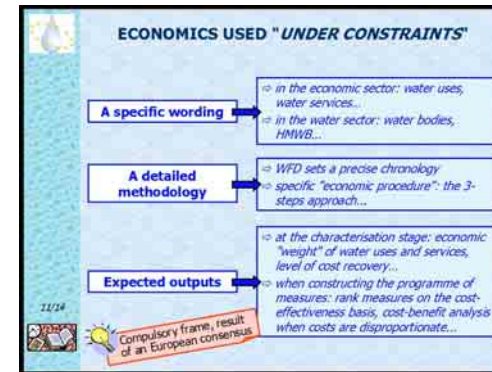
In some cases, some economic terms may have a specific meaning under WFD or will be implemented in a specific context.

E.g. there is no compulsory full cost recovery. Therefore, economists are requested to describe as precisely as possible the present situation (financial flows, etc.) but not to work on the changes required for achieving a theoretical full cost.

### Note

*There is no room for discussion on the methodology (the so-called "3-step approach"), nor on the definitions: wording of WFD and of WATECO Guidance document have been negotiated, validated and endorsed by ministers, stakeholders, water directors, etc. This is fundamental and in some cases it may be necessary to stress on it, particularly when economists involved come from the research sector, where theoretical debates are awarded more room.*

### Go further



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11/14



## YOUR NOTES

## COMMENTS

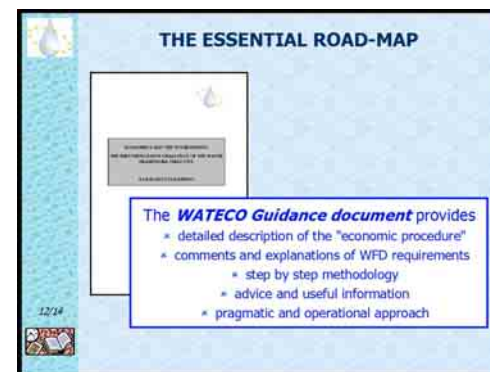
### *Key ideas*

Given the specific context of WFD, WATECO Guidance document plays a key role. Indeed, the text of WFD is not very detailed, thus raises questions of understanding. The same statement may be made regarding methodology.

Therefore, the Guidance can't be separated from WFD itself. It provides lots of answers to practical questions, several examples from all over Europe, etc.

### *Go further*

Presentation Eco-EcoB provides lots of information about the Guidance's origins, wording, etc.



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12/14



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## YOUR NOTES

## COMMENTS

### Key ideas

In some cases, the implementation of economic methods will face specific difficulties as WFD implementation combines several scales. E.g. in theory, assessment of the level of recovery of costs is not technically difficult.

However, in WFD context, it will be made difficult due to the poor compliance between data scale and output scale. Besides, public participation will often require to provide results at local scale: people will expect information matching with their concerns, which are generally rather local (e.g. quality of a given stretch of river).

Thus specific methods will be required in order to cope with these constraints. In many cases, economists will have to work together with water professionals on this aspect as (dis)aggregation techniques need to fit with technical concerns.

### Go further

Elements on the various scales referred to in WFD are provided in presentation Eco-WaterB.

**A BACK AND FORTH MOVE BETWEEN SCALES**

**Combination of several scales**

- administrative: local authorities, water authorities, regions, Land, State...
- hydrological: water body, district
- technical: data, analysis... at all scales

**E.g. recovery of costs**

- assessment of the level of recovery
  - ⇒ water service and sector scales
- basic data: prices, volumes...
  - ⇒ utility scale
- financial flows: costs, subsidies...
  - ⇒ from local to national scale

**Working methods to be adapted:**  
aggregation/disaggregation, take account that uncertainty has different signification depending on scale...

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13/14



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## YOUR NOTES

## COMMENTS

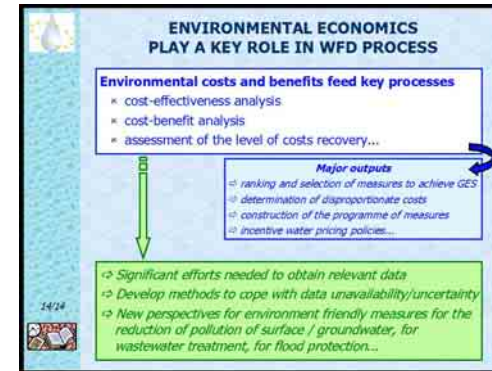
### Key ideas

In most cases, economic input will come from the sector of environmental economics. It will thus be necessary to cope with internal constraints of this branch of economics. This applies for instance to the methodology for the valuation of environmental assets: methods are generally not implemented at large scale, reference data often lacks, etc.

Not only will it be difficult for economists to cope with, but also difficult to explain to all stakeholders. E.g. explain why proxies were used, to what extent it impacts the final result, what the result of a calculation means, etc.

In spite of these difficulties, WFD opens interesting fields for research and works in environmental economics, both in the theoretical side and the applied one.

### Go further



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14/14



3

## YOUR NOTES