



Workshop on a study on the economic benefits of the EU water policy and the costs of non-implementation

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Proceedings

1. OPENING

The Commission recognises that there is still much to learn on the economics of water, particularly in terms of understanding the full value of water services and how water resources contribute to economic development. The Commission would like to help Member States to better understand these economic aspects of water, and to provide arguments based on sound economic evidence to support and improve the implementation of the EU water policy.

With this in mind, the Commission plans to launch a study on the economic benefits of the EU water policy and the costs of non-implementation. There are three strands to the study, as outlined in the concept paper (Appendix 1):

1. Water as a key resource for economic growth in the EU
2. Cost/benefit analysis of the proper implementation of the EU water acquis
3. How to maximise the economic benefits of water by identifying its most efficient uses

To inform the study, a call for evidence will be launched in the coming weeks to collect knowledge and information that exists on this area. Following the call for evidence, an open call for tenders will be issued for contracting a study over the following 18 months. At the beginning of 2018, the Commission would like to have a product from this work that will be one of the pillars for the review of water policy in 2019.

As part of the development of the scope of the work, the Commission invited a selection of water economists to this workshop to have an informed discussion on the study. The Commission thanked the participants for their availability to share their knowledge and expertise in this workshop, which aims at identifying key challenges and discuss the scope and requirements to meet the study objectives.

The workshop proceeded with an initial general discussion of the work with all participants, before splitting into three groups to discuss the individual strands of the study. The discussions from each of the three groups were reported back and discussed with all participants in a plenary session at the end of the workshop.

2. GENERAL DISCUSSION ON THE STUDY

The Commission introduced the study through a short presentation on the study objectives and examining some of the key challenges and limitations to be overcome. Overall, the objective of the study is to organise existing knowledge and put this together with additional information and evidence to generate new and solid economic arguments supporting the implementation of EU water policy. As well as being vital for EU policy making, this will also directly support the European Semester and the preparation for Water Framework Directive (WFD) review in 2019.

Whilst the main focus on the study is the value of water to increase economic growth and jobs, it must also capture the non-economic aspects of water benefits, such as welfare, health and wellbeing. In doing this, it will be important for the work to examine how the value of water varies across Europe. Ensuring that this is effective will require consideration of appropriate ways to aggregate and compare information whilst avoiding biases.

It is recognised that there are limitations: the study has a maximum budget of €500k, so the scope of work must be realistic for this budget. The timeline is also restricted: the study will happen in 18 months beginning in Q3 2016 and being complete by Q1 2018. Data availability will also be a challenge – the call for evidence will provide a lot of information, but we know that we will never have all of the information that we would ideally like.

Following the presentation, the workshop proceeded with a general discussion on the study, the key points of which are noted below around the areas of objectives, methodology and challenges. The key points of discussion on each area are presented in turn, below.

Objectives

- It is important that the outputs are easy to understand and are “sellable” – it must be accessible to the general public as well as the technical community, otherwise it will just be put on the shelf. Perhaps it would be appropriate to consider an approach similar to the International Panel on Climate Change, with robust scientific reports alongside more accessible and simple interpretation reports.
- It is important to clearly define the scope of the water policy covered by the project. On the one hand, the interlinkages and relationships between water directives make it appropriate to give consideration to the whole water acquis and capture all of the aspects of economic benefits and job creation, but it was also suggested that benefits could be gained by focusing the studies on those directives that will be the subject of review in 2018 and 2019.

- It is intended to use scenarios to define the situations to be examined through cost benefit analysis. Properly defining these scenarios will be crucial: for example, what is meant by “partial implementation” of EU water acquis? The scenarios will set out different routes for Member States to achieve good water status. The challenge will be to assign economic values to these scenarios so that we can examine whether there are good economic reasons to slow down or speed up the implementation of water policy.
- The overall policy questions must be clear – is the overall question “is it worth having the WFD and does it contribute to the economic wellbeing of the EU?” The study will feed into the broader evaluation of the WFD (and associated directives). The aim is to develop evidence about the value of water to the European economy – regardless of policy, how does water and water services contribute to the economy. The first part of the work is to demonstrate (and quantify) the value of water as a resource that we depend upon economically. The second part examines the costs and benefits of European water policy to see how policy objectives are justified by economic arguments. The third part of the study is to look at the tools and processes available to ensure that water allocation and use is optimised, but economically and environmentally.

Methodology

- The study will need to develop outcomes at an EU scale, built up from information and evidence at water body, river basin district and Member State level. There will be many methodological choices to be made around doing this, and participants agreed that there needed to be a level of caution about the ambition of this. Approaches are available and there are good examples from other studies – using local case studies to illustrate EU-level conclusions, up-scaling based on a typology of river basins, and preparation of Member State fiches to summarise clear trends and themes have all been used successfully.
- There should be the opportunity to make use of the Commission assessment of the 2nd River Basin Management Plans. This will start in earnest in March 2015. It was suggested that the economic study will be more efficient if it is timed such that it can draw on the outputs of assessment of the 2nd River Basin Management Plans and thereby avoid duplicated work.
- Regarding the approach to the study, a number of questions will need to be explored. Should the study consider water imports and exports? Is it going too far to consider water embedded in imported goods? It was agreed that the study will have to be pragmatic with a limited budget and time; however the contribution of water exports to EU GDP (i.e. know-how, technology, and infrastructure) is very relevant. A key benefit of water policy may be in facilitating water exports – although this does bring in a potential overlap with EU trade policy that might not be the intention of the work.

Challenges

- There are Member States that will want to see a value placed on environmental benefits as part of the evidence base, so the qualitative evidence must be supported by quantification wherever possible.
- When looking for evidence for economic growth, the study must have evidence on the full value of ecosystems services to justify benefits on jobs and growth – the wider context must be there to develop the detail on job creation and economic growth.

3. PARALLEL SESSIONS

Following the general discussion, participants formed three groups to examine the project tasks in parallel sessions:

- *Task 1: Water as a key resource for economic growth and well-being of the EU;*
- *Task 2: Cost benefit analysis of the proper implementation of the EU water acquis; and*
- *Task 3: How to maximise the economic benefits of water by identifying its most efficient uses.*

Based on the concept paper circulated ahead of the workshop (see Annex 1), each group was tasks to consider:

- Objectives – is there a common understanding?
- Scope and deliverables – what will be possible? Where should the effort be focused?
- Challenges and methodology – what will be the key challenges? What would the most appropriate methodological choices be to overcome these challenges?

The proceedings below summarise the feedback from each group presented in a plenary session at the end of the workshop. The key points of which are set out for each task below.

3.1. Task 1: Water as a key resource for economic growth and well-being of the EU

Objectives

The overall objective of the task was confirmed as being appropriate and relevant. The study should be useful to make the case for water at the highest policy level. Furthermore, the study should seek to make the case not only to Member State governments, but also to a wider range of stakeholders, including business. The study should help evaluate EU policy and provide evidence on the value of water

which will help contribute to demonstrating how different types of measures are useful in relation to their economic impacts.

The study should also seek to provide information to inform WFD disproportionate cost analysis – evidence on the value of water to the EU should feed back into decisions on whether the costs of improving the water environment are proportionate to the benefits.

Scope and deliverables

The scope and deliverables of the task were confirmed as appropriate, but the need to ensure that the details are developed and clearly specified in the final Terms of Reference for the work. In particular, a clear definition of the “water sector” is required to frame the work, and a wider definition was seen as beneficial to ensure that the full value of water can be captured. At the centre of the water sector are the water providers/suppliers. There are then many direct water users (e.g. agriculture) that depend on this, and then secondary industries that depend on these – but where the provision of the water resource is the starting point for the value chain.

Challenges and methodology

The analysis of the value of water resource will need to examine the specific considerations of each Member State. A lot of the information on the benefits of water (e.g. health) is not necessarily applicable to all Member State and it will be challenging to scale conclusions up to the EU level. Moreover, the monetization of benefits (i.e. from freshwater ecosystem services) may be particularly challenging. It was suggested to consider also physical values where appropriate.

It was suggested that a focus on water risk and security would be an appropriate way to frame the analysis – what it means to have too much water, too little water, poor quality water, etc. This will be useful as it would allow information and analysis that has already been done to be built upon¹, and the use of a risk assessment framework would allow the overall objectives to be delivered in an accessible manner for policy makers.

With respect to the scale of assessment, an aggregated EU-level summary is required to make the general case for decision-makers. But for the remaining deliverables it will be necessary to disaggregate and drill down to the river basin district level.

It was suggested that the study should also consider the distributional issues and the effect of climate change.

3.2. Task 2: Cost benefit analysis of the proper implementation of the EU water acquis

Objectives

¹See for instance, Report of the GWP/OECD Task Force: ‘Securing Water, Sustaining Growth’ <http://www.water.ox.ac.uk/wp-content/uploads/2015/04/SCHOOL-OF-GEOGRAPHY-SECURING-WATER-SUSTAINING-GROWTH-DOWNLOADABLE.pdf>

Task 2 sets out four deliverables – the group reported that these were all valid objectives (in principal), but that there was a risk of trying to be too ambitious in this task. This could result in the outcomes not being as strong as they could be, and it was suggested to focus on the highest priority requirements from the study and ensure that they are fully robust.

The concept paper sets out two separate areas for cost benefit analysis: an overall costs benefit analysis of the EU water acquis and a cost benefit analysis of different approaches to water management. The group considered that it would be difficult to disentangle these elements to produce two separate cost benefit analyses and that it would be more appropriate to consider different water management approaches as scenarios within the overall analysis, rather than as a separate analysis in itself.

Scope and deliverables

As with Task 1, clear definition will be important in specifying the study. The group had considerable discussion on the meaning of “partial implementation” – should this be considered to be partial achievement of the overall objective of good status, or partial legal compliance with the WFD? How this is interpreted will open very different debates and lines of assessment, so the intentions should be very clearly specified in the Terms of Reference for the study. The same is true of “water management approaches”, which will also require specific and clear definition for the study.

Challenges and methodology

The scenarios for the cost benefit analysis (or analyses) will be challenging to define and work will be needed in advance of the study to specify these, including appropriate timelines. It was suggested that the scenario setting should be based on the environmental objectives of the WFD rather than scenarios where Member States legally comply (i.e. by using exemptions) but are not achieving WFD objectives, since this does not realise the desired benefit outcomes. It may be appropriate to look at only a small number of scenarios, for example (a) full implementation (b) current situation and (c) what can be projected from Member States notification of the 2nd River Basin Management Plans (due in March 2015, but some delays may occur).

There will be a lot of valuable information for this task that will be developed through the assessment of the 2nd River Basin Management Plans. It was suggested that the timing of this task should be considered in conjunction with the programme for the assessment of plans such that duplication can be avoided, although it was recognised that the deadlines for the completion of the project may pose problems in this regard.

3.3. Task 3: How to maximise the economic benefits of water by identifying its most efficient uses

Objectives

Among other deliverables, task 3 looks at possible improvements of the water productivity index, which currently considers GDP per cubic metre of water

abstracted. If correctly developed (i.e. by removing biases, by disaggregating by economic sectors, etc.) a national-level index would be useful to drive improvements, but it should be backed up with case studies and illustrations – the simplicity of an index can help at the headline level, but it will also be important to understand the context behind the headlines.

Scope and deliverables

A number of questions will need to be considered regarding the scope of the index:

- Should it be related only to water quantity, or should water quality be factored in also?
- Should it be aggregated across all sectors, or should there be consideration of different types of productive activities (e.g. household use, agriculture, mining, industry, energy, hydropower, etc.)
- How would it be appropriate to factor in consideration of the value of water in the environment (i.e. ecosystems services)? It will be important to link in to work on water accounts and e-flows as part of this.
- Should the index be scaled *per capita*?

To ensure greatest value, the index should seek to be linked to different existing economic and job creation models. The group did, however, highlight a level of discomfort about linking a productivity index to employment and jobs.

Challenges and methodology

The primary challenge for this task will be data availability, in particular data on actual water abstraction and prices. There is comparatively good availability of data on this for the agriculture sector, but this will be a major challenge for other sectors (e.g. industry). Linking to, and building on, the water accounts work developed so far would be an interesting opportunity. Consideration of infrastructure issues will also be important – for example, understanding the water losses to system leakage and how this affects efficiency of water use.

Assessing and incorporating the economic cost associated with poor water quality will be a challenge (i.e. the cost of treatment). This must be incorporated alongside links to work on water accounts examining water quantity issues.

The task also aims to explore decisions on the allocation of water – whether there could be better outcomes through taking more effective decision on water allocation (between users, between sectors). The current tools around water productivity do not allow us to see the full picture in this regard. Examining the sectoral productivity of water will be important in this regard, as will consideration of scale and economic benefits along the value chain – for example, direct agriculture may not appear to be the most efficient use of water in terms of income generation and job creation, but it represents the crucial basis of the (high quality and high value) agri-food industries. Consideration of different approaches to the allocation of water might also need to give consideration to the land use change implications that might arise from different sectoral allocations of water.

4. CLOSING SESSION

The workshop concluded with closing remarks from the Commission setting out the next steps in the preparatory work for this study. The call for evidence will be launched in the coming weeks and will be open for 2 months. This will seek information on existing studies and capture them in a structured manner in preparation for use in the study. The evidence will also help to inform the Terms of Reference for the study, with the call for tenders to be launched in Q2 2016.

Appendix 1: Concept Paper

Concept paper

Unit C1 – Water

Study on the economic benefits of EU water policy and cost of its non-implementation

This study intends to demonstrate on the basis of solid evidence that water is a fundamental resource for a sound economic growth in the EU and that without a continuous availability of good quality water in sufficient quantities there is no possibility to achieve the boost for job, growth and competitiveness which is the main priority of this Commission. The study will identify and organise the existing knowledge and provide additional information as well as robust figures for better and more efficient policy making, with a view to supporting the shift towards the green and blue economy in the EU.

The study aims at generating new and solid economic arguments to promote effective protection and efficient use of water resources for the well-being of European nature and citizens. It could become the economic bedrock of and offer data for the 2019 review of EU water policy (i.e. evaluation and REFIT of the Water Framework Directive (WFD) and the Floods Directive) as well as provide some evidence for the European Semester exercise.

The study will be carried out following 3 main strands of work:

4. Water as a key resource for economic growth in the EU
5. Cost/benefit analysis of the proper implementation of the EU water acquis
6. How to maximise the economic benefits of water by identifying its most efficient uses

1. WATER AS A KEY RESOURCE FOR ECONOMIC GROWTH AND WELL-BEING OF THE EU

Description and Objective: Everybody recognises that water is not only fundamental for life, but it is also a key resource for virtually every economic activity. However, there is still a considerable knowledge gap on the "exact" economic value of water as well as freshwater ecosystems and their effective contribution to the functioning of the EU economy. The study intends to contribute to bridge this gap, thus preventing misconceptions on the real value of water in good status and supporting the case for its preservation and sustainable use (macro-assessment).

Deliverables

- Identification of the "EU water sector(s)" based on the analysis of existing accounting and statistical approaches. This would include the proper delimitation of EU water sector(s), also on the basis of the relevance of water as a resource and the "intensity" of its uses to generate added value and

employment. It should also consider the income generated outside the EU, as some European companies and water utilities are global leaders. As a result, it should be possible to produce robust estimations on: number of SMEs involved; (sub) sector annual turnover: trends and forecasts; correlation with employment: trends and forecasts.

- Detailed analysis of significant water uses in a representative sample of Member States to assess their contribution to national GDP and job creation also on the basis of WFD Article 5 analysis provided in the River Basin Management Plans.
- Building on the previous deliverables (i.e. by scaling-up), collection of solid economic evidence on the effective contribution of water (sector(s)) to the EU GDP and employment, including trends and forecasts.

2. COST/BENEFIT ANALYSIS OF THE PROPER IMPLEMENTATION OF THE EU WATER ACQUIS

Description and Objective: Despite the legal obligation of achieving good water status stemming from the Water Framework Directive, Member States often do not make all necessary investments to reach this goal, relying on exemptions mainly based on economic considerations. The study intends to assess whether and in which cases the (monetary and non-monetary) benefits of full implementation of the EU water acquis² outweigh its costs, eventually providing additional technical elements to properly calculate when an improvement to a water body is disproportionately expensive. The assessment will take fully into account the role of freshwater ecosystem services.

Deliverables

- Comparative assessment (cost/benefit analysis) of a partial implementation of the EU water acquis vs. full implementation: the aim is to provide evidence that the upfront costs (investments) of implementing the EU water acquis are actually cutting future costs (i.e. pollution control, improved health, reduction of epidemics) and even generating revenues in some areas (i.e. recreational activities). A particular attention will be given to the value of freshwater ecosystem services, for instance by linking the cost of non-implementation to the reduced provision of ecosystem services and to the relationship between operational expenditure and capital expenditure in decision-making. This could include an in-depth assessment of Member States justifications for derogations under WFD art 4 for selected high-priority river basins.
- Comparative assessment (cost/benefit analysis) of different water management approaches for the implementation of the EU water acquis (e.g. grey infrastructure vs. green infrastructure/natural water retention measures). A particular attention will be given to the value of freshwater ecosystem services and to the relationship between operational expenditure and capital expenditure in decision-making.

² The exact scope of the study in terms of coverage EU water acquis has not been defined yet. At this stage, it is suggested to include the following directives: Water Framework, Floods, Urban Waste Water Treatment, Drinking Water and Bathing Water.

- Analysis of the distributional effects of different water management approaches and water allocation decisions to identify "winners and losers" in order to get further insights on how to better design policies to increase acceptance levels (i.e. by using compensation systems or information/awareness campaigns).
- Analysis of possible situation of "split incentives" in water management (induced by the implementation of the EU water acquis or by existing market structures). For instance, how water service providers can be pushed towards efficiency gains to reduce prices for customers through more efficient water tariffs or better designed concession contracts, while maintaining the same level of environmental protection.

3. HOW TO MAXIMISE THE ECONOMIC BENEFITS OF WATER BY IDENTIFYING ITS MOST EFFICIENT USES

Description and Objective: several studies and statistics have demonstrated that 1 m³ of water can generate very different economic output across the EU. So for instance, 1 m³ in Bulgaria generates 5 euro of output, while the same amount in Luxembourg generates 788 euro³. The water productivity index serves as a measure of the efficiency of water use; however, it is clear that water productivity is strongly influenced by the economic structure of a country and the proportion of water intensive industries. If a country relies heavily on agriculture it will necessarily have low water productivity. The study intends to critically assess the use of the water productivity index to improve it and find a methodology for an application at water body/river basin level with a view of allowing a cross-sectoral analysis of competing uses (resource cost).

Deliverables

- SWOT analysis of the water productivity index and proposals for its improvement. In particular, it would be important to find ways to weight crucial variables to generate meaningful results able to facilitate informed choices in policy making (e. g. we cannot suggest that Bulgaria should open branches of Banque de Luxembourg on agricultural fields to increase its water productivity index). The analysis should also address the issue of the water embedded in imported products.
- Methodology for an application of the improved water productivity index at water body/river basin level and performance of cross-sectoral analysis of competing uses (resource cost) in selected "high priority" water bodies/river basin. The effects on job creation should also be taken into account. To make an example, the study should assess whether a mountain lake in a Member State should be used for aquaculture (little added-value and little job creation) or preserved to ensure bathing water standards thus allowing tourism (more added-value and job creation)
- Analysis of relative prices (tariffs) for competing uses in selected "high priority" water bodies/river basin to assess the effectiveness of cost recovery policies in

³ Eurostat Water productivity index, which indicates how much economic output is produced per cubic meter of fresh water abstracted (in EUR per m³ or PPS per m³).

place and to identify possible cross-subsidies and other "unfair" allocations among competing sectors (micro-assessment). The analysis should build on the on-going work on water (hybrid) accounts, ESTAT reporting and similar.

- Similarly to task 1, methodology to allow upscaling of the results obtained in previous deliverables to provide an aggregated analysis at EU level.

Appendix 2: Issues, Questions and Challenges

At the workshop, participants were asked to highlight their individual thoughts on key issues, questions and challenges based on the concept paper. This exercise was undertaken at the start of the workshop (as part of the *tour de table*) and provided a long-list of relevant points. These are reproduced here to supplement the workshop proceedings – the points are not listed in any particular order or priority.

- The study must be usable and acceptable to Member States, both in terms of the evidence generated and the methodology used.
- The consideration of the economic value of water should link to relevant water accounts work.
- The study must also cover future opportunities provided by the protection of water resources, not just the economic benefits being derived now.
- Through the study we must find a rational way to reach the optimum resource allocation for society.
- Upscaling from local studies to draw EU-wide conclusions will be a key challenge of the project.
- What happens if we fail to demonstrate any economic benefits from water policy implementation?
- The study needs to take account of both water quality and water quantity issues.
- The study must be accessible, so that people can understand the benefits they gain from protection of water resources.
- How do we make sure that water aspects get recognition in wider economic considerations at the EU level?
- We must take stock and clarify the benefits of water policy and have a clear and simple method to assess these benefits. This must also capture the benefits of future resilience to climate change that are created through protection of the water environment.
- The results of the study must be applicable and usable by Member States to shape their water policy.
- The study must consider all aspects of water – quality, quantity, storm water, waste water, flooding, etc.
- The study must help build wider public understanding of water management benefits.
- The study must examine and assess the methodology for justifying exemptions and derogations under the WFD.

- How will the study capture aspects of timing? Costs now ... benefits later?
- The study cannot assume that Member States will be rational in their decisions to implement (or to not implement) water policy.
- The study must help business recognise the true value of water.
- Water economics need to be linked to the Member State and European economic context.
- Levels of evidence will be highly variable across Member States.
- The scope should cover not just job creation and economic growth, but also ecosystems services.
- Monetary assessment cannot capture the full benefits of good water management (e.g. health and welfare).
- Ecosystem restoration can improve welfare and climate adaptation, and this must be captured by the study.
- To properly analyse the cost/ benefit of the water European policies, it is crucial to have consistent, reliable and homogeneous information and data for all Member States and with a periodicity (e.g. collaboration between Eurostat and DG ENV could be enhanced).