



REFRESHING H₂O POLICY

An EU socio-economic workshop

SYNTHESIS OF WORKSHOP DISCUSSIONS

Key messages, way forward and recommendations
on the eight thematic areas





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ROTTERDAM 30 31 1
THE NETHERLANDS JAN JAN FEB 2023



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ACRONYMES

AST	Appraisal Summary Table
BAU	Business As Usual
CAPEX	Capital Expenditures
CAP	Common Agricultural Policy
CBA	Cost-Benefit Analysis
CEA	Cost-Effectiveness Analysis
CFP	Common Fisheries Policy
CIS	Common Implementation Strategy
EC	European Commission
ESA	Ecosystem Services Accounting
EU	European Union
GDP	Gross Domestic Product
GES	Good Ecological Status
HEU	Horizon Europe
MCA	Multi-Criteria Analysis
MS	Member States
MSFD	Marine Strategy Framework Directive
NbS	Nature-based Solutions
NGO	Non-Governmental Organization
NWEBS	National Water Environment Benefit Survey
OPEX	Operational Expenditure
PoM	Programme of Measures
POMESA	CIS Working Group on Programme of Measures, Economic and Social Analysis
PPP	Polluter-Pays Principle
RBD	River Basin District
RBMP	River Basin Management Plan
SEA	Socio-Economic Assessment
SEEA-EA	System of Environmental Ecosystem Accounting – Ecosystem Accounting



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SME	Small and Medium Enterprise
UN	United Nations
WATECO	CIS Water Economics Working Group (former)
WFD	Water Framework Directive

FOREWORD

The Refreshing H₂O Policy workshop was held in Rotterdam on January 30-31 and February 1, 2023 in Rotterdam, the Netherlands, and organized by a group of European organizations active in research and consultancy in support to environmental policy making, illustrated below.



Most co-organizers also had a role in the workshop as topic leaders, in charge of introducing contributors, facilitating the discussions and summarizing the main outcomes. This document presents the synthesis of the workshop's discussions. It was developed by ACTeon building on the synthesis of the thematic discussions prepared by the topic leaders during the workshop; in particular, we would like to thank:

- ACTeon (France): Pierre Strosser, Gloria De Paoli, Rianne van Duinen, Cecilia Consalvo, Cloé Rivière and Clara Jarry;
- OECD (Organization for Economic Cooperation and Development): Aude Farnault;
- IIASA (International Institute for Applied System Analysis; Vienna): Taher Kahil;
- Universidad de Alcalá (Spain): Carlos Mario Gomez, Josefina Maestu;
- Rijkswaterstaat (Ministry of Infrastructure and Water Management, the Netherlands): Rob van der Veeren;
- OFB (French Office of Biodiversity, FR): Julien Gauthey.

Nevertheless, the largest credits for the contents of this document go to workshop contributors and participants: the organizing committee wants to thank all of them for providing their ideas, inputs and enthusiasms on the socio-economic aspects of blue policy for the whole duration of the workshop.

THE REFRESHING H₂O POLICY WORKSHOP

Key highlights

The Refreshing H₂O Policy workshop provided a space for policy makers, practitioners and environmental / ecological socio-economists to get together and identify the disruptive breakthroughs in social and economic thinking required to support European Blue policy transition in facing present and future challenges, including climate change.

The workshop built on experiences in applying social and economic thinking, methods and tools to support decision making at different scales (local, metropolitan area, catchment, river basin and sea basin) including in the context of the implementation of the Water Framework Directive and the Marine Strategy Framework Directive. Sources of inspiration from “beyond the blue”, including biodiversity and climate change, were also welcome. New perspectives, approaches and ideas were injected into the debate thanks to, among others, the participation of a young professionals from different disciplines and policy domains.

“Blue” or “H₂O” management and policy encompasses management and policy decisions at different scales for both fresh and marine waters, bringing an overall integrated source-to-sea perspective.

The Refreshing H₂O Policy workshop: key highlights





More in detail, the presentations and discussions on each topic were organized according to the following steps:

- Introduction to the topics in plenary, by the topic leaders;
- Under each topics, participants sat around one or more tables; contributors presented their work with the support of power point presentations printed out, as a starting point for the discussion. Under those topics where several contributions were planned, contributions were grouped according to sub-topics, and participants were split around two or three tables;
- All tables gathered together in a group discussion, taking stock of what was discussed at the table and move forward, under the facilitation of the topic leader;
- The topic leader summarized the outcomes of the group discussion to the plenary.

What you can find in this document

This document presents a synthesis of workshop's discussions, and it is structured around the topics that were addressed during the three days – resulting in the following chapters:

- Setting the scene: key takeouts from the introductory panel discussion on current experiences from European RBDs;
- Investigating the key workshop themes: eight chapters on the eight key topics, highlighting the main outcomes of table and group discussions. Although group discussions were facilitated following common guidelines, discussions in each group took their own directions, so it was not possible to present the outcomes and key messages of each topic following the same structure.
- Discovering new shores: how can other disciplines support our practices? This chapter presents a synthesis of the panel discussion shedding light on the potential roles of psychology, art and artificial intelligence in supporting blue policy;
- The way forward: this chapter summarizes the outcomes of: (i) panel discussion: putting workshop discussions into wider perspectives, thanks to interventions from DG Environment officials and the OECD; and (ii) building a community of practice: open discussions with all participants.



SETTING THE SCENE

Voices from European rivers and oceans

Miguel Polo Cebellán, President, Júcar River Basin Organization (Spain)

Success stories on agro-ecological systems.

Leon Dhaene, Secretary General, International Scheldt Commission (Belgium)

On international cooperation towards reaching WFD objectives.

Gerard Stroomberg, Director, RIWA-Rijn – Association of River Water Companies (The Netherlands)

Drinking water companies in the Netherlands are faced with increased purification efforts, despite the promises of Article 7.3 of the WFD. To properly evaluate and report on water quality and the level of purification treatment that is required, the Netherlands developed a novel framework of indices allowing for the inclusion of new, emerging substances, which could serve as a management tool for the WFD in the EU as a whole. The application of this framework to the river Rhine shows no water quality improvements since 2000.

Brian O’Riordan, Policy advisor – Low Impact Fishers of Europe (LIFE) Platform (Belgium)

Small-scale fisheries in Europe are of great socio-economic importance, and the LIFE platform wishes that this importance is recognized by policy makers – so that they do not neglect to include special provisions on small-scale fisheries in Marine Spatial Planning to secure their place in the big carve up of ocean space that is currently taking place, and which will increase as the Blue Economy gets more and more attention.

CAPTURING THE SOCIO-ECONOMIC IMPORTANCE OF FRESHWATER AND MARINE ECOSYSTEMS



Introducing the topic

As an economist supporting the WFD or MSFD implementation, you might have faced many challenges to characterise the socio-economic importance of freshwater and marine uses or to estimate the cost imposed on society as a result of ecosystem degradation. Building on existing guidance, the socio-economic analyses can be based on a wide range of approaches (water accounts approach, ecosystem services approach, cost-based approach, thematic approach...), that in turn can be based on a diverse palette of economic valuation methods.

The characterization of the socio-economic importance of freshwater and marine uses and the estimation of the welfare loss from ecosystem degradation faces some methodological challenges. For example, methodological difficulties remain in characterizing the relationship between environmental status and economic uses and capturing total economic value. While the socio-economic analyses aim to create a common understanding of the socio-ecological system and to provide a solid knowledge base for the economic assessments of measures, it has not always been clear how the produced knowledge has shed light on management challenges and opportunities and has supported decisions, thereby questioning the role of economics in decision making processes.

The contributions

Economic and Social Analyses for water policy

- **Daiva Semėnienė** – AAPC (Lithuania): Why do we carry out socio-economic assessments to support fresh and marine water policy?
- **Adeline Bas** – IFREMER (France): Lessons from carrying out the MSFD Economic and Social analysis in France.
- **Aanchal Jain** – AMURE/UBO (France): Assessment of costs of degradation of marine waste in France.

Capturing total economic value

- **Ilona Kirhensteine** – WSP (UK): Assessing the economic value/value of benefits linked to water in the UK.
- **Cloé Rivière** – ACTeon (France): Assessing the economic value of ecosystem services to support local water management and biodiversity protection.
- **Oscar Alvarado** – The Hague Academy for local governance (the Netherlands): Tools for analysing and measuring ecosystem services to capture the value of urban ecosystems.



Methodological challenges and way forward

Economic and Social Analyses for water policy

Challenges		Way forward
<ul style="list-style-type: none"> Analyses are carried out in silos. There is still limited interaction with ecologists. This is limiting our understanding of interactions between socio-economic and ecological systems 	→	<ul style="list-style-type: none"> Use of municipality data to characterize coastal tourism
<ul style="list-style-type: none"> Heavy data requirements and quality of data. Data have improved over the last 15 years, but some challenges regarding data availability persist (accessibility, reliability) 	→	<ul style="list-style-type: none"> The Natural Capital Accounting approach. The approach can also serve to improve communication of results as it relies on understandable metrics
<ul style="list-style-type: none"> Statistical data are often available at national or regional level. Rough assumptions are required to decline these data to the right scale (e.g. water basin districts or marine areas) 	→	<ul style="list-style-type: none"> Guidance should be simple and understandable to non-economists and should include a data collection framework
<ul style="list-style-type: none"> For some socio-economic uses it is challenging to determine to which extent they are marine-related (e.g. coastal tourism) 	→	<ul style="list-style-type: none"> Good business as usual scenarios are needed to determine impacts
<ul style="list-style-type: none"> Substantial financial and human resources are required to carry out good socio-economic analyses 	→	<ul style="list-style-type: none"> Meetings/platforms to share experiences and to raise awareness about resource requirements (financial and human resources)
<ul style="list-style-type: none"> Lack of monitoring and difficulty to determine the gap between current situation and good status 	→	

Capturing total economic value

Challenges		Way forward
<ul style="list-style-type: none"> The links between ecological system, ecosystem services and beneficiaries is not yet fully understood 	à	<ul style="list-style-type: none"> More knowledge to better understand the link between the environment, ecosystem functioning and welfare
<ul style="list-style-type: none"> Lack of data 	→	
<ul style="list-style-type: none"> How to combine and communicate a mix of quantitative, qualitative and monetized information? 	→	<ul style="list-style-type: none"> We need a stronger coordination between environmental models and economic assessment
	→	



- | | |
|---|--|
| <ul style="list-style-type: none"> • Difference in appropriation of economic values depending on scale and country → • Lack of technical data, mainly for regulation services, how to account for a diversity of services that are more difficult to assess → • We can only value what we perceive, how to account for other things? For example how do we deal with the valuation of ground water resources? → • Methods are (more or less) able to provide values for substantial changes in environmental, how to deal with marginal changes? → • What population to consider in valuation studies? → | <ul style="list-style-type: none"> • For valuation studies using questionnaires, we need replicable methods |
|---|--|

Bottlenecks for decision making

Challenges	Way forward
<ul style="list-style-type: none"> • Lack of clarity and appropriation by stakeholders. This can lead to contestation → • Availability of human resources. Turn-over in personnel, outflow of expertise and experience, loss of “institutional memory” → • Economic and social analyses are not sufficiently integrated in policy-making. Programs of measures are still often based on expert judgement. Policy makers do not always see the benefits of these types of analyses. → • Gap between the timing of ESA with development of programs of measures (often in parallel) → • Reporting issues → 	<ul style="list-style-type: none"> • Better articulation between science and policy. Communication more accessible for a large public and less scientific framing • Stronger network to exchange experiences and to transfer knowledge to new analysts • We need to anticipate what is happening in policy development • Better communicating results of our work

In addition, discussion also highlighted some complementary elements:

- Do social issues need to be incorporated in the analysis?

KEY MESSAGES

- Develop an EU platform with free access (including data and methodologies and success stories/case studies and contacts, knowledge base) for continuity and time saving
- Include the research and scientific community in existing Working Groups (e.g. POMESA) or create a new separate group to provide methodological guidance to ensure the usefulness of results
- Operationalize socio-economic objectives in policies and make those objectives explicit. For example, ask Member States how collected data will be used in the development of programs of measures
- Improve cooperation between experts from different disciplines (ecologists and economics). Start collaborating on good practices at the local level
- Create awareness and organize participation moments, for example through citizen science, involving the general public in research (also at the methodological stage) through media?
- Keep in mind the demand for human resources, expertise and financial resources linked to reporting obligations and think about how to concretely use results from economic and social analyses in next steps
- Ensure that expertise is transferred to retain knowledge
- Is there a role for natural capital accounting as a way to better policy-making and as a way to better communicate?

To know more on this topic, please contact: Rianne van Duinen, ACTeon – r.van-duinen@acteon-environment.eu

COST-RECOVERY AND FINANCING

Introducing the topic

Cost-recovery (principle) has been well debated in the different processes that delivered guidance documents, as a result of diverging interpretation of WFD definitions, methodological assessment challenges, its main purpose in the WFD (financial viability versus sustainable use supporting the achievement of GES) or mechanisms to influence its application beyond the responsibilities of water managers. Also, limited changes have been made to adapt water tariffs to support more sustainable water use. In parallel, there has been increasing interest in other mechanisms that can bring additional financial resources as well as incentives (e.g. payments for ecosystem services in relation to agriculture or the Extended Producer Responsibility mentioned in the update of the Urban Waste Water Directive). While most of these issues are currently discussed within the frame of freshwater policy and decisions at different scales, the topic (in particular via financing and polluter-pays-principle angles) is gaining attention in relation to the sustainable use and protection of marine resources and ecosystems.

The contributions

Pricing and water scarcity

- **Alfonso Exposito**, WEARE/ University of Cordoba (Spain) – Socio-economic impacts of water pricing and cost recovery
- **Nicholas Ellul**, Energy and Water Agency (Malta) – Cost-recovery and financing
- **Maha Cziesielski**, Trinomics (the Netherlands) – Water scarcity: internalizing costs and signaling risks

Financing

- **Lieven De Smet**, Flanders Environment Agency (Belgium) - Financing Flemish water policy with respect to water supply, water sanitation and water system management: the state of affairs
- **Josselin Rouillard**, Ecologic (Germany) - A workflow to support private financing of river restoration
- **Carlos Mario Gomez**, Universidad de Alcalá | IMDEA Water (Spain) - Financing water innovation

Policy implementation

- **Hamade Fady**, IREEDD (France) – Experiences with cost-recovery assessment in France
- **Josefina Maestu**, international water economics expert, affiliated to the University of Alcalá (Spain) - Bringing Article 9 to reality: experience from Spain
- **Ananya Ashok**, Trinomics (The Netherlands) – Experiences and lessons with taxing pesticides in the Green Reform context

Challenges, solutions and bottlenecks

Cost recovery

Methodological challenges

- Homogeneous methods to account for private and public expenditure/costs. Common valuation of financial costs (types, depreciation methods)
- Accounting for massive number of water services – reference to Directive definition
- Capture financial flows
- Homogeneity of cost recovery instruments and application of exemptions/subsidies including EU funding



Solutions tested or proposed

- Develop a Data Base on costs, income of tariffs for water services
- Instructions for accounting on annual equivalent costs and costs of self-services in groundwater bodies
- Institutional map of water services.

Bottlenecks

- CR in Small municipalities and irrigation farmers
- Legal (and political) limitation for cost recovery still prevails
 - Need for criteria for cost recovery on EU funding
- Justifying exemption to cost recovery – subsidies for OPEX
- Implementation capacities – skills for the EC and finance in water
 - Cost recovery of OPEX of water services (desalination)
 - In some cases, things are getting worse
- Water is so cheap – difficult to see incentive function working



Environmental and resource costs

Methodological challenges	Solutions tested or proposed
<ul style="list-style-type: none"> • Environmental cost in cost recovery (do we need it?) • Lack of data for water scarcity assessment • Taxing pollution (pesticides) based on risk 	<ul style="list-style-type: none"> → • Using eco taxes for cost recovery of scarcity cost- Water pricing a better approach to internalize environmental costs. → • Making data on water scarcity mandatory. – Use standard approaches for water scarcity assessment. → • National Tax on groundwater to preserve aquifers → • Introduce tax on pesticides use based on risk (pesticides application practices/a package)- develop predictive models → • Remove environmental harmful subsidies (see PAC) .

Financing

Methodological challenges	Solutions tested or proposed
<ul style="list-style-type: none"> • The need for clear objectives for water policy beyond the EU Directives as a basis for a structured Financing strategy supported by the public sector 	<ul style="list-style-type: none"> → • Broadening the financing sources by making the benefits visible to potential investors → • Integrating sectors into sustainable development strategies – system thinking → • Link innovations with real socio economic transformation – finance the transition → • Look for financing opportunities from agriculture, energy rural development • Public sources should leverage private finance • Tariffs, taxes to mobilize financing. Not only for WFD related. And for Forward planning of costs of implementation • Develop conditionality of EU funding



Bottlenecks

- Financing CAPEX and OPEX to make the system sustainable with no Taxes/grants
 - Dependence on public budgets
 - Lack of risk reduction support
- Public funding is NOT an enabler of the kind of innovations required in the water sector

Need for further work

- Financial resources are not scarce. The Water sector is underprepared to access the new financing opportunities
- Water is still cheap relative to other goods – affordability relative to income to justify exemptions to cost recovery
- Cost recovery on EU funding mandatory
- Need to standardize approaches across EU- role of the EU in improving/supporting regulation
- What changes in Article 9 Necessary- Ambiguity of Article 0 resulted from the negotiation process.
- Application of the Polluter-Pays Principle (PPP)
- Advance with Cost recovery and in particular with Environmental and Resource Cost
- Environmental and Resource cost/impacts of HE and Navigation. Definition of all water users with large impacts. HE and navigation
- Standardized methods for costing and cost recovery approaches – including Environmental and Resource costs
- Groundwater tax for protection of aquifers.

The way forward

Science – policy interface:

- Assessment of benefits to boost opportunities for financing
- Think about robust financing strategies .

Political economy and power relations

- Advancing implementation gap requires braking dependence on public financing and grants
- Integrating water into the transformative EU SD strategies linking to existing financing strategies: Green Deal Financial mechanism (sustainable financing regulations, Eu budget provision, Guarantee systems, Just transition fund, etc).

The table below summarizes suggestions for the way forward that emerged during the discussion.

Table 1 Suggestions for a way forward emerged during the discussion, organized by main theme/ aspect

Focus	Economic importance
Regulatory framework	<ul style="list-style-type: none"> • Change article 9 and/or develop an EU regulation • Hydromorphological pressures included in the regulatory framework
Data & knowledge	<ul style="list-style-type: none"> • Strengthen provision for standardised eco data (a lot of work on natural capital accounting)
Methodological developments & guidance	<ul style="list-style-type: none"> • Include E-flows • Requirements on water scarcity assessment (including precipitation and runoffs) & standardisation • Differ between water scarce and water abundant regions when we talk about cost recovery & pricing to gain effectiveness • Distribution of costs between sectors (very systemic approach with definition of water users, instruments...) • Simplify the cost recovery analysis (make a choice between economic approach & ...) • Explicit the methods and objectives
Capacity (for whom?)	<ul style="list-style-type: none"> • Nature-based Solutions (NbS) financing (tariffs, charges...) • Redefine the role of public financing, as a lever of other financial sources • More resources to do economic assessment (document case studies) • Pull existing examples / case studies to share examples of good assessment (peer to peer exchange)
Awareness (for whom?)	<ul style="list-style-type: none"> • Stimulate agroecological practices: make people are willing and able to pay the right price for food • Raising people awareness to make them consume the right goods (regulation & awareness) • Use awareness raising and engagement to our benefit. A full influencing model. Not only data (psychology).
Governance	<ul style="list-style-type: none"> • Internalise the water scarcity component in pricing • Use of blended finance to implement WFD • Better justification
Political context	<ul style="list-style-type: none"> • Eco assessment just to tick the box of art 9: co-designing assessment with people involved in the politicians (assessment tailored to the local needs...) • Fairness: move forward into fair cost recovery of water – separate the domestic prices from productive users of water

Complementary elements and consolidation

- Access to finance for water services in rural areas (highly disconnected individual networks, ...). How are you going to cope with climate change? Costly infrastructure projects if you want to connect them (then how to implement cost recovery).
- Restoration (going to be key in the future in relation to NbS). Question of broadening financial sources: market analysis, value chain development... How to develop economic sectors in a sustainable way?
- The communication on the results to financiers, stakeholders (barriers but also opportunities). Make the benefits visible.
- Public finance as an enabler for attracting finance, not the only source of finance.

KEY MESSAGES

- Moving beyond a bureaucratic requirement and making cost recovery relevant for water managers (river basin authorities, water utilities, irrigation cooperatives...)
- Knowledge base on case studies & community of practice (on cost recovery mechanisms, cost assessment...) [*caution: should not be a spreadsheet*]
- Co-designing assessment & implementation with local partners
- Making cost recovery relevant for water users and political decision making:
- Online website with easily available information on water availability and price (reporting how the price is calculated, where coming from...) [*transparency, access to information for water uses*]
- Creating the narrative with politicians / the right actors of change (using communication campaign, proactive communication experts, psychology...), including for the implementation of the Polluter-Pays (making sure it is not a license to polluter) and Beneficiary-Pays principle. [*communication / change*]
- How to be disruptive?
- Making water higher in political agendas: include more messages on water in the EU Green Deal, create water ambassadors / watershed masters (at local, river basin, national levels...)...
- Embed water in financial decisions: water risks and restoration opportunities need to be part in the financial decision making (water positive investments)

To know more on this topic, please contact: Aude Farnault, OECD – Aude.FARNAULT@oecd.org

DECRYPTING OUR FUTURE



Introducing the topic

Freshwater (WFD) and marine water (MSFD) planning processes build on the development of Business-as-Usual (BAU) or baseline scenarios, i.e. how the system would evolve if no action additional to the ones already taken would be implemented. However, by applying this approach we risk losing sight of the environmental, social and economic objectives that we want to achieve through water resource planning and management. Under other planning processes, efforts are made to develop future scenarios to guide interventions to achieve the “preferred” one – and such type of approaches are also sometimes applied to the planning and management of fresh and marine water resources.

As show in the figure below, the BAU scenario is what is likely to happen, based on what we know about the system under investigation, such as for example a river basin; this can be done, for example, by running biophysical, economic or other types of models building on existing data. However, we can go beyond that and ask ourselves what we would like to happen in the system – or, in other words, what are our management/ policy objectives – and construct alternative policy scenarios, perhaps also involving all concerned stakeholders in this exercise. For all scenarios, thus including BAU, we will also assess their likely environmental, social and economic impacts. This exercise will then inform strategy and policies to achieve our desired outcomes and mitigate the expected negative impacts of (some of) the measures implemented.

Workshop discussions highlighted three key dimensions of these exercises, each of them occurring at different steps and overlapping with each other, and namely:

1. Predicting and imagining our future;
2. Policy, decision making and political level; and
3. Working with stakeholders.

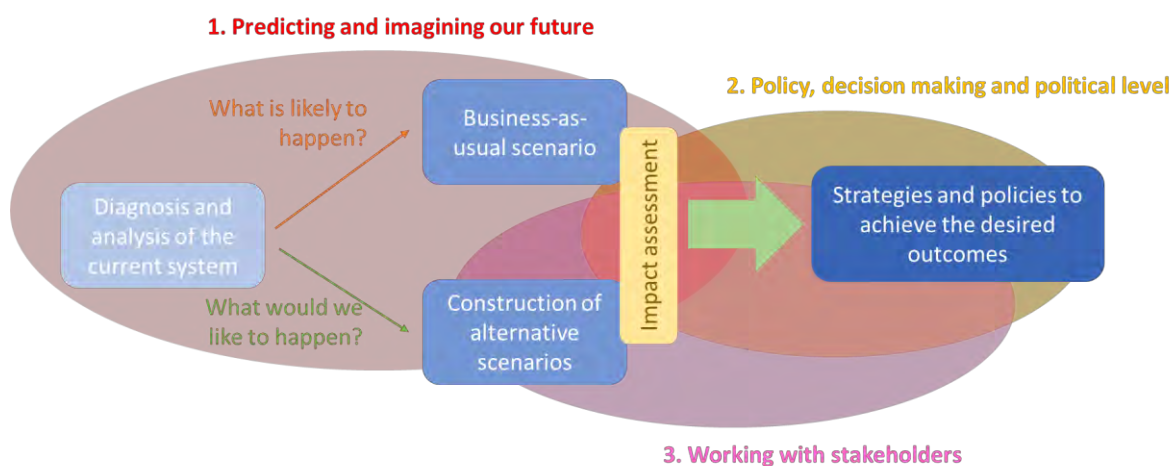


Figure 1 Decrypting our future: main steps and key aspects of these exercises



The contributions

- **Judith ter Maat and Karianne de Bruin**, Deltares (the Netherlands): Dutch Delta Scenarios for strategic decisions on adaptive delta management in the Netherlands
- **Manuel Lago**, Ecologic (Germany): Pathways to transformation
- **Pierre Strosser**, ACTeOn (France): Adour 2050 – Scenarios to support the development of adaptation strategies in the Adour River basin
- **Selma Benzekri**, Vertigo Lab (France): Investigating the future of sectors to support diversification in New Caledonia

The challenges

The contributions highlighted some major challenges to be faced when undertaking this type of exercises, and namely:

- Lack of available data and information, both for analysing the current system and for developing BAU and alternative scenarios;
- Choice of the adequate temporal scale when developing both BAUS and alternative scenarios;
- Consideration of factors and policies concurring in determining the outcomes of scenarios, and that need priority attention;
- Inclusion of stakeholders in the development of alternative scenarios;
- Consideration of direct and indirect impacts;
- Consideration of results obtained in the choice of measures to be implemented (often selected on the basis of short-term considerations), and how they can help in getting ready for what the future brings.

Group discussions then allowed for identifying points of attention, bottlenecks and open questions for each of the three key aspects of these exercises.

1. Predicting and imagining our future

- While models (and integrated models) can provide a robust prediction of BAU as well as alternative scenarios, working with more descriptive, “what if” scenarios allow for a more flexible approach, where storylines can be developed together with stakeholders. The storytelling approach can be very useful to help us imagining and playing with the future.
- These exercises bring to a multisectoral picture and call for an integrated approach, also involving policy integration and coordination).
- The trans-boundary dimension is important and needs to be duly taken into account.
- Even besides the trans-boundary, how to define the boundaries of the system is an important aspect to work on.
- Whether baseline scenarios are useful, nevertheless, remains an open question.



2. Policy, decision-making and political level

- A tension between strategic and practical implementation level emerges from existing experiences on the ground, and it is unclear how these exercises are actually translated into policy and measures.
- The need for political traction, and we should work on how to build political support.
- Additional questions to be further investigated: how do decision makers deal with uncertainties? And how do we deal with shocks?

3. Working with stakeholders

- It can be hard to communicate about the time horizon: the horizon that is meaningful for certain effects to be manifest (e.g. climate change effects) is often too long-term to be meaningful to stakeholders.
- People tend to be conservative and stay in their comfort zone, so it can become difficult to imagine really innovative scenarios.
- Power relations and conflicts need to be dealt with.
- As stakeholders normally participate to several workshops in the context of different initiatives, there can be an issue of “recruiting” all the right stakeholders in the process because of workshop fatigue.

The way forward

Starting from challenges and bottlenecks illustrated above, group discussions identified key actions that can improve the robustness and usefulness of forward-looking exercises, as illustrated in the figure below.

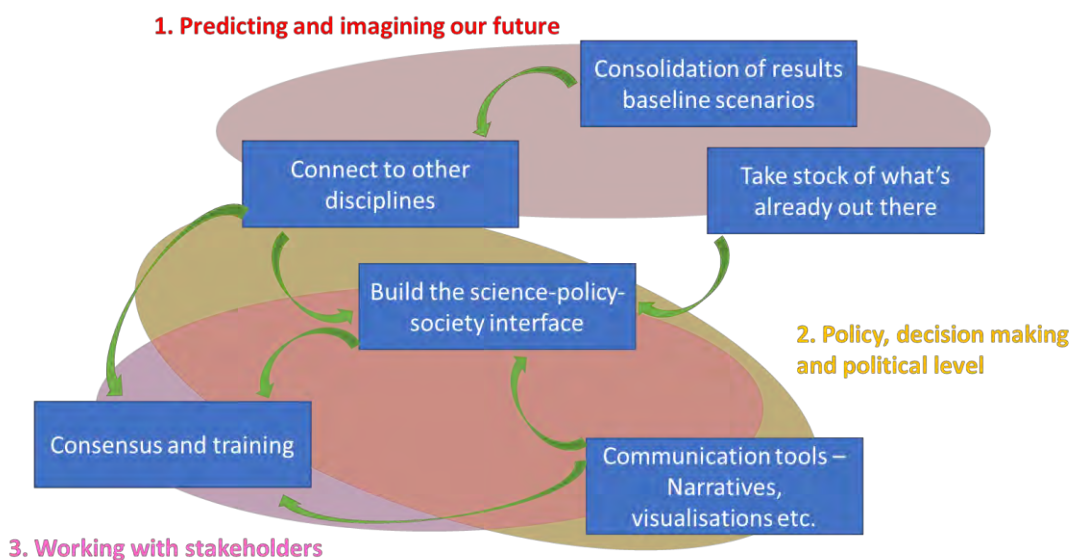


Figure 2 Key actions to move forward, improving robustness and usefulness of exercises to predict and imagine the future





More in detail:

- **Consolidation of results of baseline scenarios:** this implies, for example, making use of better data and collect new ones (e.g. on actual water use and abstraction), agreeing on a definition of baseline scenario or also develop several baseline scenarios that are likely to happen.
- **Take stock of what's already out there:** a mapping exercises of scenario building initiative in recent projects is deemed very useful, together with an analysis of how scenarios are applied in reality.
- **Connect to other disciplines:** social sciences, communication, links with environmental, social and economic policy areas that are directly linked to blue policy: all these elements are key not only to develop robust and alternative multi-sectoral scenarios, but also to communicate about scenarios and build the right narratives for our audiences, thus contributing to the development of a science-policy-society interface.
- **Build the science-policy-society interface:** discussion and participants' experiences showed that a priority action to be undertaken is the development of such an interface, as it will enable a real communication between scientists developing the scenarios, decision makers and stakeholders called to imagine their possible futures together. Such a working interface would promote the adoption of forward-looking exercises as a real support to decision making.
- **Communication tools:** these include, for example, narratives and visualizations supporting discussions with policy makers and stakeholders, able at "translating" the results of scenario building.
- **Consensus and training** should target both decision makers and stakeholders.

Complementary elements and consolidation:

- What is the state of play of scenario-building in the EU, and how it is used in practice?
- Looking at the future is important today to shape the technology and the strategies to be developed and applied tomorrow, as it is not possible to switch overnight to another policy course, or to a new technology.
- Culture and perceptions need to be taken into account, as they are likely to impact the results of the exercise. If it is true that several scenario-building exercises could not find a practical application, some success stories exist, such as for example the Delta programme in the Netherlands. Success factors of the programme include: (i) it is really a joint exercise, with a big event organized every year and attended by all parties; (ii) all parties are aware of the scenarios; (iii) there is a culture of planning in the Netherlands due to their peculiar morphology, so the programme could be built on a common vision and cultural consensus on the fact that water protection is needed; and (iv) the programme is supported and implemented by strong institutions. In Spain, in contrast, conflicting views have made it difficult to build a shared vision for the future.



KEY MESSAGES

- It now appears clear that building consensus is a key to the success of scenario building, but how can consensus be built?
- Guidelines to look forward into the future, mechanisms to guide and share lessons from experiences and support to application of these exercises (go beyond WATECO guidance), including training and capacity building, would be very welcome.
- Training and capacity building are also needed.
- Sharing of experiences in building narratives would bring a value added to the exercise, and it would thus be important to bring in the process communicators and knowledge brokers.
- It would be useful to develop a depository of scenarios for different sectors, which can be used for water management planning.

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SUPPORTING CHOICES AND DECISIONS ON PRIORITY ACTIONS

Introducing the topic

Socio-economic assessments (e.g., Cost-Benefit, Cost-Effectiveness or Multi-Criteria analyses) have been carried out for supporting the selection of measures or justifying exemptions/exceptions in the timely achievement of set policy objectives. Some reasons for the limited uptake of decision makers of these assessments include extensive data requirements (and assumptions), complexity of methods and full reliance on experts, and decision-makers' desire to have more rapid assessments.

These assessments, when carried out in isolation to other technical and ecological (complexity) assessments, have limited added value. The attention given to ecosystem services could help strengthening interactions between the technical/ecological and socio-economic expertise required to shed light on decisions. However, a diversity of skills is needed to carry out integrated biophysical-economic assessments.

There are still methodological difficulties in addressing the growing uncertainty related to socio-economic and climatic conditions in addition to the parameter value assumptions. These assessments were also not able to address issues related to human (heterogenous) behavior and to account for the indirect effects of policy interventions.

Finally, how connected socio-economic assessments are from stakeholder processes, and how results are communicated and shared, has impacts on the value of assessments carried out.

The contributions

Applications

- **Cécile Hérivaux**, *BRGM (France)* – Lessons from implementing economics to support the WFD implementation.
- **Jean-Marc BRIGNON**, *Ineris (France)* – The use of cost/efficiency methods to prioritize or decide on choices for the management of chemical pollution.
- **Dirk Osiek**, *UBA (Germany)* & **Katharina Raupach**, *Lower Saxony Ministry for the Environment, Energy and Climate Protection (Germany)* – Gap analysis for updating the national programmes of measures of the MSFD.
- **Rob van der Veeren**, *Rijkswaterstaat (The Netherlands)* – 10 years of socio-economic analyses in the Northeast Atlantic; What did we achieve?

Integrated Assessments

- **Frits Bos**, *CPB Netherlands Bureau for Economic Policy Analysis (The Netherlands)* – Cost-benefit analysis on marine water policy and biodiversity.
- **Cristian Rusu**, *RO Water (Romania)* – Assessing disproportionate costs in relation with ecological flow in hydropower sector.
- **Taher Kahil**, *International Institute for Applied Systems Analysis (Austria)* – The role of hydro-economic models to support water management decisions.



Nature-based Solutions

- **Philippe Le Coent**, *BRGM (France)* – Evaluating Nature Based Solutions for the reduction of water risks.
- **Jan Cools**, *University of Antwerp (Belgium)* – Assessing the costs and benefits of Nature Based solutions.
- **Sien Kok**, *Deltares (The Netherlands)* – Using ecosystem service valuation in CBA for (nature-based) flood risk adaptation in the Netherlands.
- **Miguel Polo**, *Júcar river basin organization (Spain)* – Success stories of agroecological systems.

Challenges and solutions

Methodology

Challenges		Solutions
<ul style="list-style-type: none"> • Different challenges depending on the scale of the assessment (e.g. industrial site to river basin) – including on how to obtain data, downscale models, mobilise stakeholders.... Also different time scales 	→	<ul style="list-style-type: none"> • Strengthen your assessments building on Environmental Impact Assessments (integration). More generally, mobilise a diversity of skills when carrying out assessments
<ul style="list-style-type: none"> • How to value nature => more applications required 	→	<ul style="list-style-type: none"> • Capture (identify) the full (a wide) range of impacts/costs & benefits – including social impacts/aspects => Integrate a diversity of values and impacts
<ul style="list-style-type: none"> • How to integrate (and assess) socio-cultural co-benefits that are difficult to quantify? 	→	<ul style="list-style-type: none"> • Do not value everything (e.g. bring qualitative éléments into the assessment)
<ul style="list-style-type: none"> • Lack of data, inconsistencies particularly challenging when (1) working across countries at the transboundary scale and (2) when looking at multifunctional Nature-Based Solutions => shouldn't we better balance efforts (resources) between « monitoring » (receiving a lot of attention) and « economic assessments » (limited resources) 	→	<ul style="list-style-type: none"> • Set partnerships with knowledge holders - e.g. with insurance companies (data and modelling on damages)
<ul style="list-style-type: none"> • When do you decide you have enough data? (what is enough...) How to you decide of the « required depth » of assessment? 	→	<ul style="list-style-type: none"> • Involve stakeholders to bring knowledge, consolidate • Be transparent with your assumptions – and ensure your assessment is replicable
<ul style="list-style-type: none"> • Economists arriving too late in the process.... But not enough capacity 	→	<ul style="list-style-type: none"> • Communicate adequately => develop an « ecological language » by and for economists





<ul style="list-style-type: none"> • Cost-effectiveness versus cost-benefit? Cost-effectiveness might be preferable if « valuation » challenges are too significant? • How to account for the « dynamics » of systems (of ecosystems, human activities...) as well as to global context (e.g. trade, global markets) 	<p>à</p> <p>→</p> <p>→</p>	<ul style="list-style-type: none"> • Facilitate/ensure accessibility to data => standardised open-source data platform • Integrate scenario and sensitivity analysis
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Supporting decisions

Challenges		Solutions
<ul style="list-style-type: none"> • How to share complexity (CBA often too complex? Data often not comparable => increased complexity as many assumptions required) – and which level of complexity do we need? • How to set (accepted and understandable) thresholds that guide your decisions (e.g. in justifying exemptions) • How to raise awareness of decision makers – and demonstrate added values of some options (e.g. nature-based solutions) • How to assess avoided damages of any option? (often data not available) • How to ensure the institutional setup can « host » a sound « economic assessment » process? Is institutional change required so outcomes of economic assessments are better heard? • Are we still at the same level as 20 years ago? Or not... • Is CBA still the gold standard? Or not? 	<p>→</p> <p>→</p> <p>→</p> <p>→</p> <p>→</p> <p>→</p> <p>→</p> <p>→</p> <p>→</p> <p>→</p>	<ul style="list-style-type: none"> • Carry out assessments for « multiple funds » (combine all available funds) • Set a technical or scientific committee to « warranty » robustness • Set the right stakeholder processes with feedback loops to support decision making • Simplified approaches... but standardized • Assess the implementability of measures (local level => will it happen...) complementary to your economic assessment => give more attention to Multi-Criteria Assessment (integrating potentially elements of CBA, CEA...) • Develop a database with more examples (building on the grey literature) • Ensure the consideration of Nature-Based Solutions becomes (legally) mandatory (=> the economic assessments then help to set where and how much...) • Develop visuals and relevant communication tools/products



Complementary elements and consolidation:

- CEA and CBA: difference between outputs and outcomes, reducing emissions doesn't mean necessarily improving water quality
- Problems of allocating pressures to impact
- Working with technical experts, how to bridge the gap between the experts (economists and non-economists)
- What is the decision making process, What they need?
- 20 years of experience, not much impact, simplified socio-economic assessments vs. extended assessments .

The way forward

Ideas to improve the relevance of socio-economic assessments:

- Address the major issues (e.g., biodiversity, equity) in a proper way.
- Economists should be part of the process at the right time (early stage)
- Misunderstanding of the role of economists, mutual understanding of the roles of different disciplines
- Problem of understanding the (economics) language, cultural aspects
- The entry point could be financing to improve decision making. Bring together different funds (e.g., for water infrastructure and biodiversity).
- Minimum methodological standards (e.g., set by EC).
- You need a constraint (e.g., legislative
- Scientific and technical committee
- Economists need to be involved in different thematic assessments limited by capacity
- Economists can facilitate discussions not necessarily providing monetary values.
- Institutional structure for decision making
- Discuss tradeoffs with everyone
- Difficulty to quantify benefits, should not be an excuse not to do them. Balance between valuing and not.
- One size (CBA) fits all: avoid this
- Social dimension is overlooked
- Economics can help to achieve GES with cost-effectiveness, looking for different financing sources
- Think beyond pre-set water objectives and avoid CEA.

- Different ideas about how socio-economic assessments should be conducted
- Avoid silo thinking .

KEY MESSAGES

- Integration of disciplines – mutual understanding of the roles of experts from different disciplines, common language
- Multiple objectives beyond WFD (to include water, agriculture, biodiversity, etc.), avoid silos thinking and move towards a more system approach
- Early involvement of economists in the decision-making processes
- The entry point could be financing to improve decision making. Bring together different funds (e.g., for water infrastructure and biodiversity).
- Minimum methodological standards (set by EC or/and MS)
- Give more attention to the social dimension in the socio-economic assessments.

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UNCERTAINTY, SHOCK AND RESILIENCE



Introducing the topic

While often ignored, uncertainty is an integral element of policy and planning. Social and ecological systems interact in complex and rather unpredictable ways resulting in adaptive processes such as climate change, globalization, technology developments, biodiversity changes, etc., that require permanent adaptation of policy scenarios, objectives, and instruments.

Water planning rarely bring resilience and adaptative capacity to the forefront of policy discussions for protecting freshwater and marine ecosystems.

Beyond the known-unknowns, global change comes with new sources of uncertainty and events that we cannot anticipate because they are outside our experience or mindset (the so-called unknown-and-unknowable unknowns). This is the case of the outcome of ecosystems adaptation processes, such as future fish stocks distributions, coastal communities and activities, or future coastal floods regimes in response to changes in temperatures and sea level and other changes that can hardly been foreseen with existing data and models.

Ignoring surprises can only increase our exposure to old and emerging risks. But how to clearly account for them and internalise uncertainty into our thinking, planning and decision making?

Forward-looking approaches for developing baseline scenarios as part of planning processes face challenges in adequately capturing the new forms of uncertainty brought about by global changes.

The same applies to economic assessment when accounting for and communicating about uncertainty and support policy in the development of anticipated, efficient, and coordinated responses to changes that can only be imperfectly foreseen.

The contributions

- **Carlos Mario Gomez**, Universidad de Alcala (Spain) – Building water security to face climate change challenges in Spain.
- **Philippe Le Coent**, BRGM (France) - Inclusion of uncertainties in water policy design and application of the DAPP methodology to a pilot case study.

The challenges

Methodological challenges

- DAPP allow flexible decisions to adapt policies to changes to deal with deep uncertainty. Defining and implementing decision criteria to define Decision Tipping Points DTPs is still a methodological challenge.
- Adaptive policy pathways are frameworks to leave options open (flexibility) to provide better responses to future situations (robustness). They should be complemented with other actions such as no-regret measures, contingent water allocation rules, no regret measures that work well across alternative futures.



- Security and resilience strategies should be an integral part of the implementation of measures to reduce scarcity. Responses such as water storage, transfers, water efficiency, non-conventional water sources can only contribute to reduce water scarcity if integrated in a strategy to foster a transition towards a sustainable water economy.
- Diversification of water sources can be a tool to manage water uncertainty (a robust water portfolio is a mean to the transition towards a water secure economy). Challenge: define optimal rules and pricing mechanisms for alternative water sources.

Problems encountered when supporting decisions

- Uncertainties on the adaptation of water management strategies to climate change.
- What assessment/decision criteria to apply to select adaptation tipping points (mono vs multi-dimensional).
- Little economic analysis involved in several pathways.
- How to reward/prioritize flexible solutions.
- Little consideration of flexibility on the demand side.
- Need to identify options that give flexibility to the system (contingent allocation rules, water storage, flood plains,.....). Need to reward flexible options.
- How to phased application of water security options in order to: Coordinate water supply and demand expansions across time. Anticipate surprises regarding effectiveness, water availability,... Align incentives to improve implementability/acceptance. Avoid inflexible, irreversible decisions. Guarantee coordination (water security in water scarce areas).

KEY MESSAGES: ADAPTATION IS NOT OPTIONAL

- Ignoring uncertainty implies taking risks. Planning for a single BAU scenario increases water insecurity. Resilient planning requires flexible pathways flexibility to adapt to alternative futures, etc.
- Robustness should be an integral decision criterion when designing programs of measures (besides effectiveness, efficiency, fairness) and should be seen as a necessary condition for sustainability in the long term. Prices should reflect scarcity (actual short-term scarcity or expected long-term scarcity?) Relative prices of alternative water sources should reflect differences in financial costs as well as differences in opportunity costs (of alternative resources).
- Water planning should recognize the value of preserving adaptation alternatives. Be careful not to reward permanent inflexibility. Be careful with what you assume in forward planning: Design a transition towards a sustainable water future (or secure water future). Even in water storage (planning provisions need to account for flexible pathways, keep options open, coordinate water uses, protect water sources, ...)
- Risk analysis is surrounded with more uncertainties in the marine environment and agreeing on likely futures, alternatives, decision criteria is more challenging (the application of precautionary principles).
- Uncertainty needs to be communicated in such a way that it can be integrated into policy decision making processes (increased risk perception in the relevant community, provide incentives for action, cooperation.) Seems that politicians and planners still think that “any number is

better than no number". Stakeholders decide not on evidence but on their more favorable future scenario, overestimate small risks and underestimate big ones).

- Need of refined monitoring systems to inform adaptation, early warning systems, response, identify tipping points (and to adapt indicators themselves to new normality).
- Transform risks into opportunity to foster towards a water resilient future.

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SUPPORTING POLICY MAKING WITH A NATURAL CAPITAL PERSPECTIVE



Introducing the topic

March 2021, the UN Statistical Commission adopted a new statistical standard - the '[System of Environmental-Economic Accounting– Ecosystem Accounting](#)' (SEEA-EA); an accounting framework to measure the contribution of ecosystems to our society, their condition (health) and the services they provide to us.¹ More recently, in July 2022, the European Commission issued [a proposal to amend Regulation \(EU\) No 691/2011 as regards introducing new environmental economic accounts modules](#), including (elements of) ecosystem accounts as one of the new modules.

In this session we explored what role ecosystem accounts could play to support the MSFD and WFD and other marine and water policies. We discussed for what type of policy applications one would like to use those accounts and confront that with the availability of data and information in current projects, to see how we can make the best use of those new accounts, and make sure that these new accounts are a useful tool to support water related policies.

The contributions

- **Martha Stofmeel**, Rijkswaterstaat and Wageningen University (The Netherlands) – Compiling Natural capital accounts for the Northeast Atlantic
- **Liisa Saikkonen**, Finnish Environment Institute (SYKE) - Natural capital accounting in Finland
- **Denis Bailly**, IFREMER (France): The French Evaluation of Marine and Coastal Ecosystem and Ecosystem Services
- **Wesley van Veggel**, Rijkswaterstaat and Wageningen University (The Netherlands) – Natural capital accounting: Policy applications for the North Sea and Northeast Atlantic Ocean
- **Ilona Kirhensteine**, Wood (UK) - Bringing ESS and natural capital frameworks into option appraisals (CEA/CBA)
- **Chrysoula Papacharalampou**, Erasmus Research Institute of Management (The Netherlands / Greece) - Life cycle and natural capital assessment

Challenges and way forward

- The added value of the ecosystem accounts results from the integration of ecological and economic data and information in one common framework.
- Access to data to develop the different accounts can be challenging. It will benefit from synergies in data collection required for different purposes and policies. Data should be provided at the sub-national scale with high resolution so it can be used in regional/local decision making.

¹ 'Natural capital accounting' and 'ecosystem accounting' are used interchangeably.



Setting regulatory obligations, as well as standardization and guidelines, will help. More resources are required to access data, or mechanisms and tools that facilitate data sharing.

- Accounts reflect well stocks, but not conditions. This means that options that improve conditions are not well represented in, nor analyzed with, accounts. More work is required to improve « conditions » in accounts and link these to flows of ecosystem services.
- Monetary values are not always required. Sharing information on changes in stocks can already be useful (and sufficient) to inform policy makers and the wider public about changes in ecosystems. In this way, ecosystem accounts can be used as a communication tool (to stakeholders, the general public...).
- Ecosystem accounts can provide baseline information for policy appraisal/ex-ante policy assessments (such as CEA & CBA) by providing insights into current uses and values as well as costs of degradation. In addition, they can help to identify tradeoffs and interactions between services, and by doing that inform and support national level economic policy making (beyond GDP). Ecosystem accounts can therefore be a useful tool for the economic analyses required under the MSFD and WFD.
- , and to support private investments by acting as a basis for financing outcome-based investments. .
- We need to work on two lines, combining private sector accounts as well as public sector accounts. However, these need a common conceptual framework.
- Criticisms that can arise on natural capital accounting can be dealt with the setting up of specialised/thematic experts' groups that will accompany the development of the building blocks of the natural capital accounts and ensure rigor/robustness
- Policy design can benefit from natural capital accounting results/indicators. It is important however that it is made « fit for purpose » so it is considered and used by different target groups (policy advisors in ministries, members of parliament, media, NGOs...).
- Make and document the links between policies and pressures on ecosystems/causalities, and progressively de-mystify this link/ensure that this link does not remain a black box.
- Pragmatism and prioritization are required, although it is clear that exhaustiveness is key to the relevance and usefulness of natural capital accounts.

KEY MESSAGES:

- The concept of ecosystem asset and its value takes into account the initial condition of the ecosystem, current and future use of ecosystem services and their value, as well as the changes in ecosystem condition and feedbacks on the capacity of ecosystems to provide services. Ecosystem asset accounts provide means/method to do forward looking analyses, that could support policy processes.
- The added value of the ecosystem accounts results from the integration of ecological and economic data and information in one common framework and can therefore be a powerful tool to support economic analyses for the MSFD and WFD (although most work is currently done in the marine environment).
- The proposed EU Regulation for ecosystem accounting is not very ambitious but a good starting point that takes into account the availability of data in different countries. The regulation includes a delegated act that new requirements and modules can be included later. We need practical case studies to show the value added for policy making. Learn by doing, and share information and experiences, for example by setting up a European working group, or Community of Practice, and use EU funds for pilot projects.

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SOCIAL CHALLENGES AND CHANGE OF BEHAVIOR



Introducing the topic

This subject can be divided into three related lines of thought, illustrated below.

Environmental inequalities

The environmental policies considered (e.g. MSFD and to a lesser extent WFD) are generally part of a **sustainable development perspective**. However, the consideration of the social pillar of sustainability (where the fight against poverty and inequalities are at the heart) remains limited in practice or often apprehended under an economic dimension (economic inequalities). Why are such social issues not considered as much as economic and financial issues? Is it because the social pillar is not clearly defined? How to raise the (political) profile of social issues and challenges in the debate on water policy and planning (fresh and marine)? With whom? What methods, tools, framework could be applied to design environmental policies and projects (e.g. nature-based solutions) that also consider other important values and/or principles of our contemporary societies (equality, social justice, equity, solidarity, inclusion, etc.)? In particular, how can policies, projects and instruments consider issues related to environmental inequalities?

Change of behavior

Environmental policies (WFD, MSFD, climate change policies, etc.) aim to change behaviors and practices (individual, professional, etc.) and use different means to do so (regulations, standards, economic tools such as incentive prices, polluter pays or subsidies, direct investments, etc.). When the WFD was adopted, the reference to incentive pricing to support changes in behaviour and contribute to achieving the environmental objectives set was seen as a positive development. However, not much has happened since. Why didn't this happen? Is it because water pricing is not a sufficient incentive today, not internalizing enough negative externalities? Is it because there are obstacles (political will, social acceptability, economic sustainability for certain sectors, etc.) that prevent increasing the price of water or setting up more incentive pricing? Or is it because pricing is not sufficient to induce the required change in behaviour? Economists have traditionally viewed price signals as the best way to bring about behavioural and practice changes. However, other approaches (sociology, political sciences, anthropology, geography, psychology, certain streams of economics...) pay much attention to other determinants (institutions arrangement, values and social /community norms, physical and technical environment, emotions, cognitive bias etc.). Can social scientists help improve the effectiveness of implementation and achievement of regulatory goals? How can environmental policies take these determinants into account? Which instruments and policies can support changes in behaviour and practices— and how best to connect them to (freshwater, marine water, climate change adaptation) policies? Is there a future for economic instruments – and if yes which one(s) and how? Or should more attention be given to other tools (communication tools, nudges, technical and structural changes...)? Is there a role for social scientists and assessments in this? How and when (in the policy cycle)?

Other social concerns and issues

These environmental policies and the resulting projects encounter difficulties in being developed and implemented, and are sometimes misperceived, contested and rejected. These social challenges are sometimes (often) summarized by political and administrative staff as issues of "social acceptability or acceptance," problems of "social perceptions and representations," or a conflict between self-interest



and public interest. Should we communicate more and/or make decisions in a different way? Should more attention be paid to other issues (health, well-being, public concerns, ...) in the implementation of environmental public policies? What role for economic tools (CBA, CEA...) and other social science analyses in the decision-making processes and in controversies/conflicts?

The contributions

Environmental inequalities

- **Cécile Hérivaux**, BRGM (France) – Integrating environmental justice dimension in water policy design and evaluation.
- **Jarl Kind, De Waterwerkers** (The Netherlands) – Social vulnerability in CBA for Flood Risk Management.
- **Jean-Carlo Rodriguez**, German Institute of Development and Sustainability (Germany) – Can biodiversity and ecosystem protection be driven by environmental justice?

Change of behavior and practices

- **Olivier Loebel**, Secretary General, EurEau (Belgium). Drivers to behavior change: how to bring water scarcity to the forefront of users' attention and practice/use.
- **Juan Velasquez**, Linnaeus University (Sweden) – Valuing Water, designing norms and behaviors for water positive lives at home.
- **Marloes Kraan**, WUR (The Netherlands) – Social factors influencing fishers' behavior.

Other social concerns and issues

- **Maria Alp**, INRAE (France) – Transforming controversy around river restoration into collective co-construction of a project: approaches to building a shared river culture among stakeholders.
- **Marine Severain**, Vlaams Instituut voor de Zee – Ocean and Human Health: How coastal environments benefit our mental well-being?
- **Clara Jarry, ACTeon (France)** – Bringing a social perspective to EU freshwater and marine water policy.



Challenges and proposed solutions

Environmental inequalities

Methodological challenges to reach environmental justice	Solutions tested or proposed
<ul style="list-style-type: none"> • Who will pay for damage (specific floody)? • Rising nature-based solution • Collecting data: inclusive procedure, evaluation methods • Economist can't be alone to analyze the situation → it has to be transversal (social sciences, anthropology...) 	<ul style="list-style-type: none"> • Join quantitative and qualitative methods • No answer but we should adopt a minimum Flood protection level • Maintain the approach on environmental injustices in nature-based projects • Think about way to compensate distributional inequalities • Consider equity as a criteria • Different look at different situation
<p>Challenges encountered when supporting decisions</p> <ul style="list-style-type: none"> • To understand how the policies are designed • To change tools and understand the issues • Surveys: trying to measure objectives statement 	<p>Solutions tested or proposed</p> <ul style="list-style-type: none"> • Be critical • Measure equity – make adjustments and look at different solutions • Experts, stakeholder, meeting, having a session making an overview about who are the winners and losers

Take aways

- We need to be aware about inequalities in distributions procedures and recognition
 - We need to understand how these inequalities are created
 - Act, plan, design projects to minimize inequalities
- Adjust your CBA with equity weight, different preferences, vulnerabilities
 - Economic analysis is necessary but not sufficient.





Other social concerns and issues

Methodological challenges to reach environmental justice		Solutions tested or proposed
<ul style="list-style-type: none"> • Define social concept in marine concept • Replicate measures, adapt them to EU policy context • Mobilization of diversified public for all stakeholder ; Involve vulnerable groups (less educated, poorest people...) and women • Administrative barriers (social is flexible) • Avoid domination of discussion by local personalities • Little reactivity for first exercise (icebreaking) • Defining position of people involved • Newness of field: costal/health, lack of standardization, lack of awareness, transfer to practical outcomes • Lack of social science: lack of knowledge and support • Dependance on people participation, recruit pay + uneven participation of people • Online survey, different setting than in lab 	<p>→</p> <p>→</p> <p>→</p> <p>→</p> <p>→</p> <p>→</p> <p>→</p> <p>→</p> <p>→</p> <p>→</p>	<ul style="list-style-type: none"> • Literature review • Gest inspiration with case studies • Define a common method framework • Pre-investigation with sociologist; give equal time to stakeholders • Dare to do it, give discussion opportunities to express • Take time to implement • Give voice to locals inhabitants to express • Survey involving citizens • Financial incentives to increase participation • Use of Virtual reality to the appropriation of the issues
<p>Challenges encountered when supporting decisions</p> <ul style="list-style-type: none"> • No social dimension in directive • Missing a common language • Giving equal invoice to anyone • Some brakes depend on urban planning • Results not always quantified • Ocean and human interactions do not within a one fits all approach • Lack of data 	<p>à</p> <p>→</p> <p>→</p> <p>→</p>	<p>Solutions tested or proposed</p> <ul style="list-style-type: none"> • Add social dimension of directive • Set a common framework language on social impacts principles • Engaging river basin authorities • Use tools such as movie trace of what happened, discussion, • Include people from urban planning • Policy brief about marine /human health (raise awareness)





- • Use tools such as Life Satisfaction approach
- • Enhance accessibility to data
- • Integration of cultural service of marine health to marine policy

Take aways

- Sociological survey
- The place of emotional, sensory element is major compared to technical knowledge
 - Integrate human health in water related policies
 - Defining the contextual meaning of social
 - Health social issue or other level of issue
 - Involve stakeholders at early stage
- Reflecting on the role of CBA as the most used approach to capture social challenges: Is the best approach?

The way forward

To imagine the way forward in a concrete way, participants to this session were involved in a role play. Four groups had to make proposals, guided by a key question (and policy objective and a budget constraint) different in each group; participants had to put themselves in the shoes of a DG Environment official needing to select the best projects able to address the question and the policy objective. The proposals are summarized in the tables below.

Question 1: How to improve the effectiveness of water and marine policies to change people's behaviour?

Proposed project	Objectives	Expected results	Anticipated difficulties in implementation
Avoiding flushing the toilets (as currently done)	Mapping methodologies to identify the best approaches Survey, communication, social media	Identify effective methods to impact at European level scale	Long time commitment Funding Diversity of communities across EU



Question 2: How to address inequalities in a) access to water and ecosystems and b) exposure to environmental risks?

Proposed projects	Objectives	Expected results	Anticipated difficulties in implementation
Mapping hotspots for water access	<ul style="list-style-type: none"> Consolidate existing knowledge and data Maps of flooding, water quality. Use the maps to prioritize hotspots in the EU 	<ul style="list-style-type: none"> Overlay of maps to identify critical areas Prioritization of hotspots Standard methods 	<ul style="list-style-type: none"> Local homogenous data, lack of resources, financing
Reducing the vulnerability of most at risk	<ul style="list-style-type: none"> Capacity building Awareness ; communication, resources to recover, risk transfer Understand the reasons of vulnerability. 	<ul style="list-style-type: none"> Reason for vulnerability Recommendations to reduce inequalities and new regulation at EU level 	<ul style="list-style-type: none"> Resistance to change Relocation of people Financing the next step Representation Lack of acceptance and coordination
Acuity	<ul style="list-style-type: none"> What inequalities exists in coastal catchments (case studies)? Understand inequalities in terms of use, access and exposure Identify drivers of inequalities How to correct them Case study: coastal catchments (France vs Columbia) 	<ul style="list-style-type: none"> Creation of action Platform for change and map Building a network/community of practice involving citizens, researchers, water managers 	<ul style="list-style-type: none"> Lack of data Low funding



Question 3: How to improve participation of disadvantaged communities?

Proposed project	Objectives	Expected results	Anticipated difficulties in implementation
Participatory river imaginary (PRI)	<p>Increase citizens participations and participatory sciences</p> <p>Building physical think tank → Decentralizing, start at a low scale.</p> <p>Being inclusive</p>	Increase the ecological use of river, its attractiveness,	<p>Funding</p> <p>Long term commitment</p>

Question 4: How to better integrate water/marine protection with health/social policies?

Proposed projects	Objectives	Expected results	Anticipated difficulties in implementation
Co(a)st for all	Estimate health cost related to ocean environmental status	Marine investment in ocean environment	Funding
Know your ocean	<p>Participatory project to describing quantifying biodiversity of the coast.</p> <p>Raise awareness both public and policy maker</p>	<p>Improve data and raise awareness of benefits for health.</p> <p>Ocean literacy</p> <p>Increase well-being for participants (spending time together in nature)</p>	<p>Coordination and funding</p> <p>Include marginalized communities in data collection</p>

KEY MESSAGES



Environmental inequalities

- What kind of environmental injustices are created by environmental policies, in the distribution of costs and benefits.
- How do marginalized communities participate in the design of policies?
- Recognition injustices: what type of knowledge is used to characterize environmental problems.
- How can economic methods reflect these inequalities, for example in CBA.
- Economics can bring one side of reality to the table, but we need a combination of disciplines to have a clear picture of reality.

Change of behavior

- We discussed communication, how do we communicate our message, and the importance of water. Which innovative ways?
- Understand the difference between people and how can we use it to target them?
- We need a holistic approach, how to make regulatory measures?
- Is an ethical approach needed if we speak about changes in mind set?
- Tools: communication tools, prices, restrictions, and regulations are incentives to change.

Other social concerns and issues

- Policy-science interviews. How should science integrate social science, and how should it be in turn included in policy making.
- River restoration where a wide range of communities were involved. Several disciplines were involved.
- Politics of knowledge, what kind of knowledge informs policies.
- Communities should be included early in the process, and at every stage of the process.
- It is difficult to build trust, there is a barrier between scientists and the general public.
- CBA raised a bit of conflict. It only describes part of the problem. The social part takes again the backseat.
- Particular emphasis should go to health and should gain attention in social analyses.

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POLICY PROCESSES AND GOVERNANCE

Introducing the topic

The session on policy processes and governance aimed at looking at the wider picture under which social and economic challenges are addressed, in particular in relation to policy coherence, policy integration and governance issues (including in terms of the level of co-creation and co-responsibility between different actors) from the policy design to practical implementation. Within a complex policy framework (see the number of directives, strategies and policy instruments relevant to fresh and marine waters in Europe) and in a global context that amplifies complexity as illustrated by the COVID pandemic or the war in Ukraine, it is increasingly evident that (freshwater and marine water) policy making need to account for the implications of these crisis in terms of agriculture, food production, energy, trade and relative prices.

That's what we discussed, identifying challenges and experiences in enhancing policy coherence and integration via adapted governance and delivery mechanisms. In this session, we aimed at shedding light on: trade-offs between sector (CAP, CFP) and environmental framework (WFD, MSFD) policies; how policy processes are designed and implemented, and how this can influence their outcome and effectiveness; how integration takes places between policies as well as between different levels (local, regional, river basin, national...). Possible adaptations in policy processes and governance that would bring social and economic challenges and knowledge higher on the policy agenda and decision making were also addressed in this session.

Policy processes remains a largely unexplored area, and an area that receives limited consideration in policy making. De facto, we are taking for granted that when a decision is made, it will be implemented... as soon as resources and financing are made available. Real life is slightly more complicated... Looking at the future, and learning from the COVID and Ukraine crisis, we also focused on policy boundaries and the need to question them, particularly in the context of the need for adaptation and increasing resilience to climate change.

The contributions

Policy integration

- **Manuel Lago**, Ecologic (Germany) - Streamlining coherence between public policy objectives
- **Paulina Ramirez-Monsalve**, NIVA (Norway/Denmark): The way CrossGov sees (so far...) policy integration, coherence and cross compliance

Giving more chances for socio-economic assessments to support (cost-)effective water policy

- **Jonathan Fisher**, freelance consultant (UK) - Experience from England and Wales in using economics for supporting water management
- **Edi Interviews**, InterSus (Greece) – Why concrete always (?) wins: Can socio-economic assessment shed lights on flood-defence investments? The example of the Skyros Island (Greece)
- **Femke Schasfoort**, Deltares (The Netherlands) – Socio-economic impact assessment of IWRM

Processes that can deliver transition



- **Judith ter Maat**, Deltares (the Netherlands) — Co-creation of river basin planning through participatory development of interactive dashboards
- **Josselin Rouillard**, Ecologic (Germany) - Strategies for water allocation reform in the context of WFD implementation (aligning water rights with environmental needs)

Challenges and solutions

Methodology

Policy coherence – challenges		Solutions
<ul style="list-style-type: none"> • Complex policy landscape related to biodiversity • Contradictory messages • Disproportionate costs: too high compared to what? • No academic research on disproportionate costs – no advice provided. • How to include externalities in socio-economic assessments – what are the boundaries? (ie plastic pollution and water footprint). 	<p>→</p> <p>→</p> <p>→</p> <p>→</p>	<ul style="list-style-type: none"> • Policy consultations with stakeholders- having the right people around the table • Coherence policy check before drafting new directives • Policy design process plus impact assessment • Develop a framework to assess disproportionate costs
<p>Socio-economic assessment to support water policy – challenges</p> <ul style="list-style-type: none"> • Overestimating flood risks • Not considering alternatives • MCA scores do not reflect reality • No consideration of availability of finance. • Having the technical inpt and capability for SEA at catchment level • Integration of different aspects: sediments, social welfare, demand changes. • Difficulties of assessment of biodiversity and climate change • How to present quality information to decision makers to get them on board 	<p>→</p> <p>→</p> <p>→</p> <p>→</p> <p>→</p> <p>→</p>	<p>Solutions</p> <ul style="list-style-type: none"> • Simplify methodologies in CBA of flood programmes • Start with qualitative approach followed by MCA • Combine CBA and MCA • Strategic assessment • Collaborative research with stakeholders • Benefit transfer of values for specific benefits • Appraisal summary table • Applied valuations for changes in environmental outcomes (euros per km of NWEBS)





Processes that can deliver the transition

- Two approaches to assess the social and economic implications of proposed water management/water allocation: carry out an assessment (building on available data) or asking stakeholders to identify what they think are potential impacts. Expert's judgement (or stakeholder knowledge) as key to assessing potential social and economic impacts (challenge of credibility and robustness)
 - Use new data services and models (machine learning) to deliver new knowledge
 - Develop narratives and develop story maps that help capturing spatial differences
- Access to stakeholder data is challenging => using global data for developing first assessments can then give an incentive for stakeholders to share their own data and information
- Which mechanisms to mobilise stakeholders? Mobilise a sample of individual farmers to do reality checks

Decision making

Policy coherence – challenges		Solutions
<ul style="list-style-type: none"> • Applying exemptions analysis to burdensome at the moment • Lack of environmental economics expertise • Bureaucracy makes things more difficult 	<p>→</p> <p>→</p> <p>→</p> <p>→</p>	<ul style="list-style-type: none"> • Improving policy coherence requires to check all the steps of the policy cycle. • Policy coherence needs to be addressed in the impact assessment phase of the policy process • Policy coherence at EU level and national level – part of the negotiations with MS
Socio-economic assessment to support water policy – challenges		Solutions
<ul style="list-style-type: none"> • Institutional cooperation • Valid studies • Real stakeholder involvement • Does Socio Economic Assessment play a role? 	<p>→</p> <p>→</p> <p>→</p>	<ul style="list-style-type: none"> • Setting governance process for institutional interplay • Insuring real stakeholder participation • Valid studies • Ensure SEA play a role in real implementation.

Processes that can deliver the transition



- Need to set a deal with stakeholders that will share knowledge, so they know what they will get in return
 - Work on a better narrative that attract stakeholders
 - Find (or create) the right opportunity for “making a change”
- Lack of data is often mentioned as a constraint, but is it really one? Even with limited data, you can do an assessment and move to predictions/scenario development
- Change the policy of the agricultural sector – as many conditions that can support transition in the agriculture sector are not made locally => at which scale should the “water-agriculture” nexus be negotiated?
 - Bring successful cases on the table from peers as this contribute to social learning
- How quickly do we identify to governance and institutional bottlenecks in stakeholder processes, as well as solutions for adapting governance and institutions? This is rarely discussed as key stakeholders mobilized have a vested interest in the current institutional set up and governance
- We need to have a clear vision/message to guide the processes. The farm to fork strategy that combines agriculture and environmental objectives can play this role. But it is too general and far from the ground/unknown by the majority of stakeholders
- Need to understand how stakeholders get organized to contribute to a given policy/water management process.

Complementary elements and consolidation - SEA

- Not enough emphasis on decision makers and what their role and their needs are so we can help them
- Even if we have laws and regulations in place at project level problematic processes: who is in form, stakeholder participation format, good studies.. But in practice focus less in taking best decisions and focus more in preventing wrong decision – role of SEA
- When studies are financed and implemented there is post evaluation – checks in the system on whether we have achieved the objectives

The way forward

The table below summarizes suggestions for the way forward that emerged during the discussion.

Table 2 Suggestions for a way forward emerged during the discussion, organized by main theme/ aspect

Focus	Economic importance
Data & knowledge	Need for standardized processes for accessing to socio economic data for decision making
Methodological developments & guidance	Economic analysis not anchored enough in the real world – move beyond analysis into who will do what
Capacity (for whom?)	Role of experts providing information that is useful for the actors who implement policies and specially those who will do change
Awareness (for whom?)	Use simple tools (eg AST) to provide information in ways stakeholders can understand
Governance	<p>Set a system to evaluate on compliance at project level in the case of EU funding or other levels – check if objectives are achieved.</p> <p>Promote the creation of policy and programme fora at catchment level to coordinate policies and insure coherence- including financing</p> <p>Understand the stakeholder groups internal dynamics to be able to transition</p>
Political context	Focus more on preventing wrong solutions – not an optimal world

KEY MESSAGES

Policy coherence

- Policy coherence assessment in policy design- it should be part of impact assessment and fitness check. Is it always the case?
- Some pieces of legislation do not consider that the WFD is in place and this results in WFD objectives not being achieved- cross compliance issues
- DCA could raise interesting questions of other topics/sectors that need to be explored
- There is a lack of coherent methodology for DCA
- CBA, CEA, DCA.. The process is more valuable than the results.

Socio-economic assessments to support (cost-effective) water policy

- Too much money thrown to the problem is not useful – prevents proper policy processes
- Check the eligibility of solutions in terms of financing

- Consider more alternatives such as nature based solutions.
- Need to go one step back and talk to the Sector – how are in practice decisions taken.
- Need for joint outcomes – meaning also joint responsibilities.

Processes that can deliver transition

- Stakeholder engagement needs to be “professionalized”, setting a clear “deal” with stakeholders at the beginning of the process defining who provides what and what are stakeholders commitments and benefits, and understanding who each stakeholder effectively represents
- More attention needs to be given to how stakeholders are organized (within their own organization, community, group...) to effectively work and contribute to a given process. Beyond representatives of associations, get individual stakeholders (e.g. a “real farmer” to bring diversity and source of inspiration (find resources to facilitate their involvement)
- Transition requires “local positive initiatives” accompanied by macro changes. Key is to think at different scales, and make clear what can be achieved/what are the leverages relevant to each scale – catchment, metropolitan areas (large cities are gaining importance in water management), regions, river basin, national... To have a chance of success, we need to bring changes at the same time at all levels – including in relation to trade policies that have impacts on decisions of sectors
- The process needs to be iterative, travelling from science to policy/decisions several times to develop a sound knowledge base that responds to needs of stakeholders/decision makers
- Share information in an open manner – so it can be accessed and used by all.

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New approaches to address social and economic challenges

New perspectives in addressing social and economic challenges were discussed during a round table discussion. The paragraphs below provide the main insights brought up by panellists, as well as the overall key messages emerging from the session.

How can (environmental) psychologists help?

Marine SEVERIN, VLIZ (Belgium)

- Environmental psychologists can shed light on the ocean & human health and, namely, on how the environment impacts us and vice versa.
- Mental well-being and emotional mechanisms are a key aspect.
- Supporting pro-environmental behaviour is our objective, fostering ocean literacy.
- Psychology is key to make behaviours change, we can not only rely on policies.
- We need to include marginalised communities' perceptions into decision-making.
- Environmental psychologist can play a key role in building an emotional connection to ocean and nature in general.
- Health and well-being should be included in policies.
- How to make sure policymaking pays attention to people, remains an open question.

Innovative approaches at the interface between science and art

Juan P. VELÁSQUEZ, Department of Design, Linnaeus University (Sweden)

- Communication must be adapted to the targeted audience. With kids, for example, emotional mechanisms should be used, as they function less rationally.
- Art and design can play a crucial role in dealing with diversity, for example they can be used to communicate with people speaking different languages. Other ways of communicating are worth being explored.

Is there space in our debate for observation, prediction, artificial intelligence... and maybe more?

Muriel LUX, MERCATOR Ocean (France)

- Physic scientists do not talk about social and economic issues, but the ocean health is crucial for humans; thus, the collection of indicators and data on different parameters of the ocean and their trends (climate change, acidification...) is strongly related to human health.
- Artificial intelligence can be used to test scenarios and simulate the impact of decisions on a virtual ocean.

What tools can be used to develop the emotional aspect in decision making?

- Visual tools, creating something someone can relate to (memories, values...) to hit an emotional cord.
- Using visual representations to represent for instance the “reality of the world” (e.g. quantity of water on Earth).
- Provide the right amount of information depending on the purpose, in order not to get stakeholders lost.
- Primitive ways to react (pain/rejection/hope) are key motivators that can be used.
- Sound tools.
- Physical experience during workshops, for instance contact with water.

Putting workshop's discussions in a wider perspective

The workshop ended with a panel discussion where representatives of key institutions offered their closing perspectives on the role that socio-economic thinking, models and tools can play in freshwater and marine policy. Key insights from this talk are provided in the paragraphs below.

Paulus Arnoldus – European Commission, DG Environment, Working Group on Economics

- The deadline for completing and delivering the 3rd RBMPs is coming soon. Once the plans are delivered, there will be time for reflection, while pushing for implementation of the plans, and there will be room for new ideas. The question that needs to be answered is: what can we do better? Some ideas brought up during the workshop are innovative, and these may need to be considered in the policy process.
- At present, the social factor is brought up only as a justification not to do anything. But the momentum created during the workshop should be used to turn this around and take in social factors as elements allowing for better policy design and implementation.
- While adaptation to climate change is urgent, water resilience is not taken up in current policies
- How is it possible that while climate is urgent that water resilience is not taken up. There is a need for global coordination to make things move forward. In the case of the WFD progress is a bit hidden (chemicals). Sometimes you manage to progress by pushing different levels and dispersing knowledge. Let's also learn from outside the EU.

Frédéric Lagneau – European Commission, DG Environment, Working Group on Programmes of Measures, Economic and Social Analysis (WG POMESA)

- Current shortcomings to a better integration of socio-economic thinking into the WFD and MSFD include: (i) limited resources and expertise available at DG Environment; (ii) the need for a political push.
- To successfully break silos, everyone to be part of it. Involving JRC in the review of the MSFD is a first step, and DG Environment would also like to include biodiversity. Besides, this is all required by the Better Regulation Guidelines.
- In the MSFD evaluation, the economic aspect is key.
- The Ecosystem Services Accounting (ESA) is not very detailed, as pointed out by some articles. For evaluating POMs we would like to apply this approach, using ESA data also on social topics. This needs to be pushed forward.
- In the POMESA group, a survey across MS showed that they are interested to push forward the inclusion of social issues.
- Attention was paid to the health component in the context of the revision of the Bathing Water Directive.
- The Common Implementation Strategy (CIS) has proven to be a good practice, and we should push it further.
- As half of MSs have not submitted their PoMs, we need to find a way through the revision to simplify the processes and make it more feasible.



Ariane Blum – French National Research Agency, Coordinator of the European Partnership Water4All

- As Water4All we make links between research, policy-makers and SMEs to address water challenges. The partnership started in 2022 bringing together countries from and outside the EU, with the aim of facilitating international cooperation. The overall budget is EUR 420 million.
- For the community to support research, different way of thinking is needed. Success is reached when one puts together a variety of actors to deliver comprehensive measures. The Water4All community is key to bridge science and policy.
- We are currently revising our strategy: currently, social issues are underestimated, but additional attention will be paid to the topic in the future.
- Despite many studies are conducted in economics, this is not sufficient to support the implementation of water policies: something needs to be changed.
- The little progress in obtaining GES for groundwater bodies in the EU is surprising: how can the community gathered at the workshop contribute to change things, to catch the challenge we have to face?

Bertrand Vallet – European Commission, DG Research

- The current HEU work programme includes topics and missions that are interesting to the community gathered for the workshop. DG Research is currently designing the call 2025-2027 to fund future work on these topics; what is missing, though, it is a clear message on what is needed in terms of funding. On the EC platform, ideas for future projects can be shared.
- Currently, the work programme on governance addresses social impacts and their inclusion in decision making.
- Change of behavior and the role of perceptions are crucial for circular economics, so these aspects must be pushed forward.
- There are a lot of interesting calls that could serve to push forward the work on the workshop's topics.

Aude Farnault – OECD

- The objective of the Global Commission on the Economics of Water is to shift the conceptual framework on the value of water, and its work will be presented at the UN Water Conference in New York.
- The special attention to green water will bring in a new perspective, as well as the attempt to characterize the hydrological cycle as a global common good.
- The work of the Commission has a global relevance, as also reflected by the global angle of their work.
- Societal dialogues will be important to discuss with different communities.
- The week after the workshop, the Roundtable for Financing Water was organized by the OECD in Geneva.
- The OECD made the link between the Roundtable and the Global Commission, and a final report will be delivered in March. The present workshop synthesis will also be passed on to the Global Commission by the OECD.



Building a community of practice

Setting a **publicly accessible database or repository of social and economic studies and initiatives**, as well as a **community of practice** that would allow to continue the conversations started at the workshop, have emerged from nearly all thematic sessions and informal exchanges. What, how, by and with whom are issues that will need specific attention to think about realistic options and opportunities.

Exchanges stressed in particular:

1. The need to learn from the functioning of, and opportunities offered by, **existing "communities of practice"** for topics addressed during the workshop (e.g. CLIMAT-ADAPT in relation to risk, uncertainty and resilience, the Natural Capital Account Partnership, H2020 projects on Nature-Based Solutions, etc.),
2. The **selection of a practical case, topic or issue for further collective work** (not necessarily with the entire group of participants), playing the role of incentive to continue the conversation based on something concrete
3. The **opportunities for follow-up meetings** (on specific topics or follow-up actions) integrated into/benefiting from existing events organised under other initiatives (e.g. workshops and events organised under the Mission Ocean Lighthouses at the sea/river basin scales, or the next EU Water Conference...).
4. The possible **role the European Environment Agency** (not present at the workshop) could play in hosting the database/repository of studies, reports and initiatives
5. The possibility to **use Slack or OpenSocial (EC)** as the digital tool to facilitate future exchange between workshop participants and other interested persons.