EU Water Blueprint Conference

26 – 27 November 2012, Nicosia, Cyprus

Background document

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EU Water Blueprint Conference

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On behalf of the Environment Directorate General of the European Commission

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List of panelists who contributed their views to the background document:

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0 Blueprint to Safeguard Europe's Water Resources

The 2000 Water Framework Directive (WFD) put forward an integrated approach for EU water policy, centered on the concept of river basin management. The WFD aims to achieve good status for all EU waters by 2015. However, as pointed out by the European Environment Agency's 2010 State of the Environment Report,[1] the achievement of EU water policy goals appears uncertain due to a number of anticipated and emerging challenges.

The **Blueprint to Safeguard Europe's Water Resources**[2] is a European Commission Communication, published in November 2012, which presents the EU policy response to these challenges.

The long-term objective of the Blueprint is to ensure the sustainability of all activities that impact water, thereby securing the availability of good-quality water for sustainable and equitable water use. This goal is already enshrined in the WFD in various ways. The Blueprint will facilitate its achievement by identifying obstacles and ways to overcome them.

Most of the challenges faced by aquatic ecosystems can be addressed through **better implementation** of the extensive legislative framework on water in place[3] and by **enhancing the integration** of water policy objectives into other policy areas such as the Common Agriculture Policy (CAP), the Cohesion and Structural Funds, and the policies on renewable energy and transport. Only in a minority of cases have gaps been identified that would require the completion of the current framework by new action of a legislative/legal nature.[4]

The Blueprint time horizon is closely related to the EU 2020 Strategy and, in particular, to the 2011 Resource Efficiency Roadmap. The Blueprint is the water milestone on that Roadmap. However, the analysis underpinning the Blueprint covers a longer time span, up to 2050, and is expected to drive EU water policy over the long term.

The Blueprint's policy recommendations are based on a wealth of information and analysis including:

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1 SOER Synthesis, 2010. The European environment - State and Outlook 2010: Synthesis. European Environment Agency, Copenhagen.

2 Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, A Blueprint to Safeguard Europe's Water Resources. COM(2012) 673, 14.11.2012. http://ec.europa.eu/environment/water/blueprint/pdf/COM-2012-673final_EN_ACT-cov.pdf.

3 Particularly the WFD, the Environmental Quality Standards Directive, Groundwater Directive, Urban Wastewater Treatment Directive (UWWTD), Nitrates and Industrial Emissions Directives.

4 See Commission Communication, A Blueprint to Safeguard Europe's Water Resources.

1. The EEA State of Water report[5]
2. Analysis of WFD river basin management plans developed by the Member States[6]
3. Review of the EU policy on Water Scarcity and Drought, including water efficiency measures[7]
4. Outcome of the Fitness Check of EU freshwater policy, including a gap analysis to assess the adequacy of the current framework[8]

Moreover the Blueprint is accompanied by an Impact Assessment.[9] The Blueprint is based on extensive public consultations both in the framework of its development and under the Fitness Check which has involved the general public, stakeholders, and Member States, as well as other EU institutions and bodies.

An important milestone in the preparation of the Blueprint was the 3rd European Water Conference held on 24 – 25 May 2012 in Brussels. The conference provided a platform for consultation and debate on the Blueprint policy options and on the accompanying impact assessment. The summary report and key messages of the 3rd European Water Conference can be found at: http://waterblueprint2012.eu/conference-documentation.

1 The EU Water Blueprint Conference

The EU Water Blueprint Conference (26-27 November 2012, Nicosia, Cyprus), jointly organised by the European Commission and the Cyprus Presidency of the Council of the European Union, aims to **hold a debate** between different stakeholders, Member States, and the European Commission **on the implementation of the policy proposals of the Blueprint to Safeguard Europe's Water Resources**. The conference also serves as an opportunity to launch and present the Blueprint to a high-level audience.

The sessions of the EU Water Blueprint Conference include presentations on the main themes of the Blueprint, moderated panel discussions, and engaging discussions with the audience. A live webcast will be available on the conference website. The conference programme is available at: http://www.euwaterblueprintconference.eu/programme.

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5 http://www.eea.europa.eu/themes/water/publications-2012.

6 Commission report on the Implementation of the Water Framework Directive (2000/60/EC) – River Basin Management Plans.

7 Commission Communication on the Report on the Review of the European Water Scarcity and Droughts Policy.

8 Commission Staff Working Document on the Fitness Check of EU Freshwater Policy.

9 Commission Staff Working Document – Impact Assessment, accompanying the Communication 'Blueprint to Safeguard Europe's Water Resources' which includes a full list of the studies that have fed into the Blueprint.

How to prepare for the conference discussions:

This background document provides a basis for discussion at the conference and is structured along the five main conference sessions, which follow to large extent the key themes of the Blueprint:

- **Session II** covers aspects of **land use and ecological status vulnerability**,
- **Session III** looks into ways of **tackling water pollution** and into **water infrastructure**,
- **Session IV** discusses **EU water efficiency**, especially accounting, allocating, using, and recovering costs of water,
- **Session V** addresses **global aspects of water policy**, and
- **Session VI** focuses on **cross-cutting solutions** to further the objectives of EU water policy.

In the following sections, this background document provides a short introduction to each session of the conference and proposes questions for discussion with the panelists and the audience. The questions are based on the topics addressed in the Blueprint with a focus on the proposed solutions to key problems.

For the preparation of this background document, the conference panelists were asked to give their preliminary views on the proposed questions. Each panelist has been invited to address a limited set of questions (1-3 questions per panelist), according to their field of expertise.

The contributions of panelists to this document represent the broad scope of their interventions, and panelists can elaborate further during the panel discussions at the conference. In addition, panelists are welcome to address any question from the list for their session during the conference in order to open up the range of views heard.

Further to this background document, conference participants should consult the following documents to prepare for the discussion:

- Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, A **Blueprint to Safeguard Europe's Water Resources**.
- **Report** from the Commission to the European Parliament and the Council **on the Implementation of the Water Framework Directive** (2000/60/EC), **River Basin Management Plans**.
- **Commission Staff Working Document**, **European Overview,** Accompanying the document Report from the Commission to the European Parliament and the Council on the Implementation of the Water Framework Directive (2000/60/EC), **River Basin Management Plans**, **Volumes 1 and 2**.
- **Commission Staff Working Document**, Accompanying the document Report from the Commission to the European Parliament and the Council on the Implementation

of the Water Framework Directive (2000/60/EC) **River Basin Management Plans, Volumes 3 to 30 (Country-specific assessments for EU Member States and Norway)**.

- Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, Report on the **Review of the European Water Scarcity and Droughts Policy**.

All documents listed above are available at:
http://ec.europa.eu/environment/water/blueprint/.

2 Session II: Land Use and Ecological Status Vulnerability

2.1 Scope of the session

This conference session focuses on the main pressures on water body ecological status related to land-use patterns (especially hydromorphological pressures and pressures from water over-abstraction) as well as possible solutions. This session will also address ways to reduce the vulnerability of EU waters to extreme events such as droughts and floods.

According to the Blueprint,[10] the most widespread pressures on ecological status in the EU originate from the modification of water bodies (**hydromorphological pressures**), mainly due to hydropower, navigation, agriculture, and flood protection. Effective pressure-specific mitigation measures should be introduced and environmental assessments (SEA, EIA) widely applied in programme and project development.

Pressures from agriculture and flood protection can be mitigated or prevented in particular by developing buffer strips along river banks and using, whenever possible, **green infrastructure** such as the restoration of riparian areas, wetlands and floodplains to retain water, support biodiversity and soil fertility, and prevent floods and droughts. This is a valuable alternative to classical grey infrastructure (e.g. embankments, dykes and dams).

In addition, **water retention measures** can hold water in periods of abundant - or excessive - precipitation for use in periods of scarcity.

The second most common pressure on EU ecological status derives from **over-abstraction of water**. In this context, the over-allocation of water to users in a river basin due to miscalculation of the available amounts, or due to economic or political pressures, should be distinguished from water abstraction which is illegal because conducted without a permit or in breach of a given permit.

10 See Commission Communication, A Blueprint to Safeguard Europe's Water Resources.

2.2 Questions for Discussion

The following questions are proposed for discussion with the panelists of this session and the conference audience, based on key proposed policy options in the Blueprint:

1. To address hydromorphological modifications, the Commission proposes to **enhance the take-up of green infrastructure** (restoration of riparian areas, wetlands and floodplains) by relying on EU funds (Cohesion, Rural Development), by including natural water retention measures and buffer strips in the ecological focus areas under the greening of CAP pillar I, and finally by developing Common Implementation Strategy (CIS) guidance on natural water retention measures. Do you think this is the right approach?
2. In your opinion, are there other essential ways to address pressures from the **hydromorphological modification** of water bodies due to hydropower, navigation, agriculture, and flood protection that we should promote?
3. What are your views on the Blueprint proposal to prioritise green infrastructure (in RBMPs, Drought and Flood Risk Management Plans), particularly **water retention measures for mitigating the effects of floods and droughts**?
4. What new actions/measures do you think should be taken at the EU level to limit the negative effects of **floods and droughts**?
5. What are your views on the Blueprint proposal to develop a CIS guidance document for a common EU definition and methodology for calculating **ecological flow** as a tool to support water allocation and ensure adequate water quantity in order to achieve the WFD quality objectives?
6. In your opinion, what other measures should the EU support to tackle the problem of **over-allocation of water** to users in a river basin?
7. In your opinion, is GMES mapping of irrigated areas (satellite imagery through Global Monitoring for Environment and Security) a useful tool to address **illegal water abstractions**?

2.3 Preliminary Views of Session Panelists

In the following sections, the views of individual panelists on the proposed questions are presented.

The Rivers Trust (UK) comments on the ways to enhance the take-up of green infrastructure measures, especially via inclusion in pillars of the CAP. In their view, green infrastructure measures should be contained in Pillar 2 where they can be targeted in a strategic way as

part of a whole catchment management plan to deliver secure water resources.

Electricité de France (EDF) and via donau give their opinion on other essential approaches that should be promoted to address pressures from hydromorphological modifications of water bodies, especially due to hydropower and navigation. Among others, these include more R&D to fill in knowledge gaps on hydromorphological processes, measures and their interrelationships, technical and scientific collaboration between operators and regulators, and integrated planning processes with early integration of stakeholders.

On the issue of vulnerability to droughts and floods, the Rivers Trust are very supportive of green infrastructure measures incorporated into RBMPs and Drought & Flood Risk Management Plans, and propose ways to target such measures. The Rivers Trust and WWF both propose additional actions and measures that should be taken at EU level to limit negative effects of floods and droughts, such as further action to improve economic valuations related to restoration and green infrastructure.

The Blueprint proposal to develop CIS guidance for calculating ecological flow is commented by Electricité de France (EDF) from the perspective of the hydropower industry. They emphasise the importance of recognising that e-flow has to be viewed in a broader perspective of multipurpose use of water.

Finally, WWF contribute their views on measures needed to tackle the problem of over-allocation of water to users in river basins (e.g. water accounting and assessing water needs for ecosystems) and tools to address illegal water abstractions (especially GMES mapping of irrigated areas with strong political will as precondition).

Panelist replies to questions:

1. *To address hydromorphological modifications, the Commission proposes to **enhance the take-up of green infrastructure** (restoration of riparian areas, wet-lands and floodplains) by relying on EU funds (Cohesion, Rural Development), by including natural water retention measures and buffer strips in the ecological focus areas under the greening of CAP pillar I, and finally by developing CIS guidance on natural water retention measures.*

Do you think this is the right approach?

Alistair Maltby, Director – North, The Rivers Trust:

The Rivers Trust movement has been working with farmers to protect river catchments for 15 years. Although we whole-heartedly support green infrastructure measures, we question whether including these measures in CAP Pillar 1 is the best way to achieve the desired outcome. We are concerned that including green infrastructure measures in a format required for compliance will effectively mean that they are too blunt to be effective and highly reliant on the effectiveness of enforcement. We believe that green infrastructure measures need to be targeted in order to function. For instance, buffer strips need to be in the right

place and the right size in order to intercept pollution; water retention areas need to be targeted to areas that provide this ecosystem function for the community. We do not think it is *smart* to take a broad approach to these measures that will result in very important productive areas of land being reserved for green infrastructure; it would be more sensible to target more marginal areas of land. Our view is that green infrastructure measures should be contained in Pillar 2 where they can be targeted in a strategic way as part of a whole catchment management plan to deliver secure water resources. This means that not all farmers would have to deliver measures, but those who farmed areas that provide valuable alternative ecosystem functions for the community could be suitably compensated for changing practice. If measures are to be taken forward in Pillar 1, we would call for livestock to be excluded from watercourses by measures such as fencing, apart from in open uplands and purpose built drinking areas. We would also call for specific measures to protect soils and wetlands.

2. *In your opinion, are there other essential ways to address pressures from the **hydromorphological modification** of water bodies due to hydropower, navigation, agriculture and flood protection that we should promote?*

Xavier Ursat, Deputy Vice President Hydro Generation and Engineering, Electricité de France (EDF):

In the framework of the first WFD river basin management plans implementation, river morphology restoration has been highly challenged and various requirements regarding the improvement of river morphology have been made across Europe. These include river bank restoration or re-enforcement, re-meandering, weir removal, river dynamics modification and sediment continuity restoration through both structural and water management measures.

The good calibration of these measures, particularly those concerning river and sediment transfer restoration, requires a high level of knowledge of hydrological, hydromorphological and geomorphological processes also in addition to biological and ecosystem processes. Whereas the methods, tools, degree and the urgency in which those measures have to be implemented vary deeply from one Member State to the other, and even from basin to basin, it is commonly and very frequently admitted that there is still a lack of knowledge on these processes and their interrelationships. Therefore, R&D and experimentation are still necessary.

The effectiveness of the morphological measures required by regulators also has to be challenged. If it is acknowledged that good hydromorphological functioning facilitates and helps promote better ecological status, the way to prioritise some measures more than others still remains a question.

Developing technical and scientific collaboration between hydropower operators and regulators in sediment research programs on experimental basins where morphological restoration has to be challenged is probably the best way to progress and to fill the gap between the lack of knowledge and the need to better assess the effectiveness, as well as the appropriateness of the measures.

As other industry, hydropower has already been strongly mobilised to reduce the environmental impact of its processes and will continue due to environmental issues as well as existing and future legislation requirements. However, it cannot solve all current environmental challenges without contributions from other stakeholders.

In some cases, it could be more effective to promote multi-stakeholder and multi-criteria approaches prioritizing extended river reaches where river restoration will be more efficient rather than very local measures on specific existing works or plants.

Of course, economical and energetic aspects also have to be questioned. Since hydropower is an essential part of the renewable electricity sources, which are addressed by the EU Renewable Energy Directive, the increase in ecosystem service implied by geomorphological measures has to be assessed together with the loss of production it could generate. Cost benefit and cost efficiency studies have to be promoted. This will allow better understanding between operators and regulators.

Markus Simoner. Team leader Infrastructure Development. EU Danube Region Strategy – Inland Waterway Transport. via donau[11]:

Public discussions on the protection versus economic development of European rivers in recent years have led to a growing understanding that there is a strong need to guide future actions with an eye to reconciling what might be conflicting interests. Some innovative processes and measures have shown that it is indeed possible to create **win-win solutions** for **environment, transport** and **other river uses**.

In the Danube region, the **"Joint Statement on Guiding Principles for the Development of Inland Navigation and Environmental Protection in the Danube River Basin**", endorsed in 2007 by the ICPDR (International Commission for the Protection of the Danube River), Danube Commission and the International Sava River Basin Commission (ISRBC), is a key tool providing guidance for the planning and implementation of waterway projects. To provide further guidance, the **"Manual on Good Practices in Sustainable Waterway Planning",** developed in 2010 by the EU project PLATINA and designed for use in the Danube River Basin, can also benefit other European river basins.

The main lessons from these publications are to **organise** and **implement** a balanced and **integrated planning process**. Thereby, project developers must also consider national,

11 Views based on "Manual on Good Practices in Sustainable Waterway Planning", pages 7-8, 2010, under the framework of the EU project PLATINA - TREN/FP7/TR/218362.

regional, and local aspects and requirements when developing an inland waterway transport (IWT) project. The **early integration** of **stakeholders** (including those representing environmental interests) and of **environmental objectives** and **wide communication** are essential for successful planning process.

Although preparing and executing an **integrated planning process** requires a more substantial investment into planning, it results in a number of **measurable benefits**: greater certainty for the IWT project planning will successfully pass the hurdle of environmental permits (EIA); development of innovative technical solutions; better financial feasibility; reduced environmental damage costs; and better use of the river ecosystem services as well as an improved public image of the project and the institutions responsible for planning and operating IWT infrastructure.

The **four essential features** for integrated planning are:

- Identify **integrated project objectives** that incorporate IWT aims, environmental needs and the objectives of other uses of the river reach such as water management, recreation and fisheries.
- **Integrate relevant stakeholders** from the initial scoping phase of a project.
- Carry out an **integrated planning process** to translate the IWT and environment objectives into concrete project measures creating, where possible, win-win results.
- **Conduct comprehensive environmental monitoring** before, during and after the project works, enabling an adaptive planning and implementation approach as well as evaluating the project's success.

3. *What are your views on the Blueprint proposal to prioritise green infrastructure (in RBMPs, Drought and Flood Risk Management Plans), particularly **water retention measures for mitigating the effects of floods and droughts**?*

Alistair Maltby. Director – North. The Rivers Trust:

The Rivers Trust is highly supportive of green infrastructure measures incorporated into RBMPs and Drought & Flood Risk Management Plans. These measures need to be specific and targeted. In the case of RBMPs, measures need to be targeted on a catchment-based assessment and not just limited to failing water bodies, which might be failing due to the impact rather than the cause. In the case of drought & flood, broad measures spread thinly over a catchment will not lead to a perceptible increase in security, but targeted measures in sometimes very specific zones can have very big impacts on flood timing or water resources. For example, the EU funded ALFA project found that in the River Eden in Cumbria (UK), green infrastructure measures in one 2 km stretch of river could delay a flood by 4.5 hours. The same work on similar length reaches upstream and down made no difference. The same project found that changes in land use to natural rough grassland could substantially improve

drought flows, although this was dwarfed by the impact of recovering soil structure on land compacted by animals or vehicles. Our answer is to bring measures together in a community-led catchment management plan based on the principles of the Ecosystems Approach.

4. *What new actions/measures do you think should be taken at the EU level to limit the negative effects of floods and droughts?*

Alistair Maltby, Director – North, The Rivers Trust:

The EU can help limit the negative effects of floods and droughts in a number of ways:

1. Facilitate the understanding and economic valuation of the Paid Ecosystem Services provided by the restoration of natural processes and green infrastructure.
2. Encourage Member States to take a catchment / watershed based approach to flood and drought management.
3. Ensure Member States are being open-minded in their integration of the Water Framework and Flood Directives.
4. Encourage knowledge exchange and synergy between functional sectors to prevent measures for flood protection compromising drought risk and so on.
5. Facilitate a process where green infrastructure measures can be applied based on ecosystem functional outcome rather than economic fairness for all farmers.
6. Consider community-wide protection and improvement of soils.

Irene Lucius, CEE Head of Policy and Green Economy, WWF Danube-Carpathian Programme:

WWF welcomes the Blueprint and its focus on water quantity issues. However, in order to succeed, adequate control mechanisms have to be in place, appropriate water pricing is essential, and integration into related policy sectors is necessary (e.g. CAP cross-compliance and Cohesion Policy).

To limit the negative effects of floods and droughts, the EU should promote (e.g. through guidance):

a) A strategic approach to wetland conservation and restoration, in particular in flood plains. This approach would identify areas of highest importance for flood mitigation (and other positive side-effects such as nutrient retention or biodiversity) and steps to be taken to prepare and implement restoration measures as outlined in the

"Assessment of the restoration potential along the Danube and main tributaries" (WWF, July 2010).

b) The analysis and comparison of environmental, resource and monetary costs, and ecological and socio-economic benefits of various options of flood mitigation in order to identify the option of the highest benefit and least negative impact on freshwater ecosystems. Example from Tisza River: option A: the construction of polders / reservoirs along Tisza River or option B: natural water retention measures ("More space to rivers").

c) The provision of adequate and sufficient co-funding from various EU budget lines, in particular the Common Agricultural Policy for compensation payments and sustainable rural development processes and Cohesion Policy funds for Green Infrastructure measures.

d) The inclusion of environmental safeguards into flood and drought mitigation and other water infrastructure funding to prevent investments into unsustainable solutions and ensure the adequate application of WFD Article 4.7 and the SEA Directive as well as pre-planning mechanisms.

5. *What are your views on the Blueprint proposal to develop a CIS guidance document for a common EU definition and methodology for calculating **ecological flow** as a tool to support water allocation and ensure adequate water quantity in order to achieve the WFD quality objectives?*

Xavier Ursat, Deputy Vice President Hydro Generation and Engineering, Electricité de France (EDF):

As mentioned in the Discussion Paper "Environmental flow in the EU"[12], the flow regime plays a primary role for structure and functioning of aquatic ecosystems. Rivers, lakes, wetlands and groundwater dependent ecosystems are largely controlled by the hydrological regime. The changing quantity of water flowing in a river provides habitats and significantly influences water quality, temperature, nutrient cycling, oxygen availability, and the geomorphic processes that shape river channels and floodplains. Natural flow regimes display variability at a range of time scales, including seasonal, and inter-annual, and native aquatic and riparian biota are adapted to this variability.

For hydropower, in France for instance, since 1984 the e-flow was arbitrarily fixed to 1/40 the annual average flow rate, and has recently changed with the new "Water & Aquatic ecosystems" Act of 2006 (transposition of the WFD in France) which imposes a flow release

12 Intecsa-Inarsa 2012. Environmental flows as a tool to achieve the WFD objectives. Discussion Paper.

of 1/10 the annual average flow rate (called “modulus”) and 1/20 for some exceptions. Even if site specificity and variability of the e-flow along a year are key issues according to many experts and NGOs, new legislations in many countries continue to define fixed and arbitrary values for the e-flows. The consideration of the natural flow regime in the Blueprint is therefore a progress.

From a hydropower point of view, 870 water intakes are affected by the new law in France. It means a loss of generation of approximately 2 TWh/year for being compliant with the new regulation. In a period of looking for new renewable energy sources in Europe, it is important to consider these energy and economic issues too.

Additionally, it is important to recognise that the e-flow has to be viewed from a broader perspective of multipurpose use of water, and it would be more logical, from a sustainability point of view, to talk about downstream flow which has an environmental but also a social and an economic component. More water does not necessarily mean better environmental or social conditions, and the link between the Good Ecological Status (GES) and the e-flows must be considered with caution. Indeed, according to the Discussion Paper “Environmental flow in the EU”, the e-flows for different case studies with Good Ecological Status (GES) range from 25% to 50% of the average annual flow rate. However, it is possible to reach GES with a lower e-flow value as demonstrated in some rivers in France classified as at GES with 10% of the average annual flow rate.

6. *In your opinion, what other measures should the EU support to tackle the problem of **over-allocation of water** to users in a river basin?*

Irene Lucius, CEE Head of Policy and Green Economy, WWF Danube-Carpathian Programme:

Other measures the EU should support to tackle the problem of over-allocation of water to users in a river basin include water accounting and the assessment of water needs for freshwater ecosystems with adequate public consultation. A process should be promoted that ensures allocation and distribution of sufficient water for ecosystem (e-flows!) needs with stakeholder involvement. WWF also believes that forms of (rural) development are to be prioritised that are less dependent on water in order to reduce water demand and consumption. Water permits need to be regularly reviewed.

7. *In your opinion, is GMES mapping of irrigated areas (satellite imagery through Global Monitoring for Environment and Security) a useful tool to address **illegal water abstractions**?*

Irene Lucius, CEE Head of Policy and Green Economy, WWF Danube-Carpathian Programme:

WWF has promoted the testing of GMES type mapping of irrigated areas as tool to identify illegal water abstractions in Spain with good results. We welcome its promotion by the Blueprint. However, strong political will is a precondition. Member States need to increase capacity for controlling over-abstraction of legal water sources. Legal measures should be enforced with fines proportionate to inflicted costs. In addition, voluntary labeling schemes whereby supermarkets mark goods produced with water from legal sources as well as certification programmes can be helpful.

3 Session III: Tackling Water Pollution – Water Infrastructure

3.1 Scope of the session

Session III of the conference focuses on how to address water pollution, increase the sustainability of water infrastructure and encourage water re-use as a key alternative water supply option.

According to the Blueprint,[13] a main step towards robust decision-making is adequate monitoring of water bodies, including all priority substances. Implementation of key EU directives on water quality (additional to WFD), such as the UWWTD, Nitrates and Industrial Emissions Directives, has progressed significantly. However, full compliance remains to be realised. In addition, the Commission has proposed the inclusion of the Directive on the Sustainable Use of Pesticides in cross compliance within the CAP reform to support more effective enforcement of this Directive. The Commission is also seeking ways to address environmental risks from pharmaceuticals in the aquatic environment.

Concerning the sustainability levels of water infrastructure, the Commission plans to engage with the EU water industry in order to accelerate the development and spreading of best practices on sustainable leakage levels from distribution networks and, more broadly, of a strategic vision for the future of water infrastructure adapted to the challenges of climate change in a world of increasing resource scarcity.

Finally, this conference session will address options for appropriate EU-level instruments to encourage water re-use for irrigation or industry, in particular the potential for a regulation on common standards.

13 See Commission Communication, A Blueprint to Safeguard Europe's Water Resources.

3.2 Questions for Discussion

The following questions are proposed for discussion with the panelists of this session and the conference audience, based on key proposed policy options in the Blueprint:

1. What do you think are the most appropriate actions to ensure full **compliance with EU legislation on water pollution** (particularly UWWTD, Nitrates Directive, Industrial Emissions Directive)? More EU enforcement? More EU funds?
2. In a context of changing climate with extreme weather phenomena water infrastructure needs to be adapted. What is an appropriate approach taking into consideration economic and environmental aspects?
3. What are your views on the Blueprint proposal to look into a regulation establishing common EU environmental/health **standards for reused water**?
4. In your opinion, are there other effective ways to encourage **water re-use for irrigation or industrial purposes** as a key alternative water supply option in the EU?
5. In your opinion, what is the best way to restrict risks to the aquatic environment from **pharmaceuticals**? **Is there a need to change their authorisation procedure to better take account of their environmental risks**?
6. Would the addition of the Directive on Sustainable Use of Pesticides to cross-compliance, as proposed by the Commission, help reduce pesticides risks?

3.3 Preliminary Views of Session Panelists

The views of individual panelists on the proposed questions are presented in the following sections.

The Water Director of Romania presents his view on how to ensure compliance with EU legislation on water pollution. He states that the implementation of EU Directives is cost-intensive and the level of implementation differs between Member States, resulting in differing needs for EU financial support. Moreover he points to the need for integrating water management issues into other EU policies, the need for an EU approach on economic mechanisms on water, and the need for European research programmes promoting new technologies that are affordable, low energy and easy to maintain.

EUREAU presents its views on economic and environmental aspects to approach climate change impacts on water infrastructure. EUREAU supports the application of the polluter-pays and user-pays principles and emphasises that public participation, especially of local

water and wastewater utilities, is critical to ensure long-term sustainability of the decisions made.

EUREAU and the Danish Agriculture & Food Council present their opinions on effective ways to encourage water re-use for irrigation or industrial purposes. According to EUREAU, legal certainty is important and the legislator's role is to set the quality objectives and to provide a level playing field for actors involved. Also the Danish Agriculture & Food Council agrees that regulative barriers must be removed and adds that continuous focus on innovation and new technologies is needed.

The European Federation of Pharmaceutical Industries and Associations (EFPIA) states that the best way to restrict risks to the aquatic environment from pharmaceuticals is by considering life cycle aspects of finished medicinal products under medicines legislation. Form their perspective, in addition to environmental risk assessments, the risk-benefit approach associated with patient use of medicines also has to be included.

On the proposed inclusion of the Directive on Sustainable Use of Pesticides to cross-compliance, the Danish Agriculture & Food Council is of the opinion that actions on pesticides should be targeted to where they have the biggest impact and not governed through cross-compliance. The key means of ensuring the sustainable use of pesticides is not through additional rules but through the swift introduction of new and better products, tackling point sources, and farm advisory services and training.

Panelist replies to questions:

1. *What do you think are the most appropriate actions to ensure full **compliance with EU legislation on water pollution** (particularly UWWTD, Nitrates Directive, Industrial Emissions Directive)? More EU enforcement? More EU funds?*

Gheorghe Constantin, Water Director, Romania:

The implementation of EU Directives on water pollution requires strong financial resources, technical expertise and skills, proper institutional capacity and, most importantly, time for the building of the necessary infrastructure. Once infrastructure is built other costs for maintenance and operation are needed. As EU water policy becomes more ambitious, supplementary costs for modernisation and upgrading of the existing infrastructure will be necessary.

We have to recognise that the economic crisis added supplementary obstacles and put pressure on the already scarce financial resources of some EU national budgets. It also hindered the willingness to pay of the targeted population (particularly that which was not used to pay for water), of farms and companies. The crisis also created problems for local authorities and reduced their co-financing capacity.

We also have to recognise that within the EU the stage of implementation of EU directives on

water pollution is different between countries, and therefore some of them will need more financial support than others. On the one hand, special financing programmes could be developed at the EU level (for environmental protection for the UWWTD and WFD; for agriculture under the Nitrates Directive; for competition for the IED). On the other hand, institutional, technical and financial capacity of the countries is needed to be able to use such financing.

We consider that, in order to have better implementation of EU directives on water pollution, we need a joint approach at the European level concerning the integration of water management issues with other EU policies, particularly the Common Agricultural Policy, energy, and climate change. In this respect, we have to be careful when providing incentives to actions which will put high pressure on water resources (e.g. the promotion of biofuel). In addition, we have to be precautious when establishing objectives and levels of ambition for these policies (esp. CAP and climate change policies).

Next to command-and-control, one very efficient instrument for the implementation of EU directives on water pollution is represented by the development and use of a specific economic mechanism which includes “user pays”, “polluter pays” and “cost recovery” principles (already introduced by WFD Article 9). In order to be efficient and politically acceptable we also need a common approach at the EU level concerning economic mechanisms in the water field, and therefore further steps are needed in this respect.

Having in mind that the UWWTD, Industrial Emissions Directive, Nitrates Directive and the WFD require implementation of different techniques and technologies, we consider promotion of innovation in the water field as an important driver to support implementation of these directives. It is necessary to promote new technologies which will be affordable, low energy and easy to maintain. Taking into account limited financial resources and the large amounts needed for research, the development of dedicated European research programs for new technologies in the water protection sector (e.g. FP8), in which all the countries with common specific problems can be involved, will be welcomed.

2. *In a context of changing climate with extreme weather phenomena, water infra-structure needs to be adapted. What is an appropriate approach taking into consideration economic and environmental aspects?*

Almut Bonhage, Secretary General, EUREAU:

Extreme weather conditions create new challenges for existing and new water infrastructure. In times of financial crisis, financing the water infrastructure is difficult and needs to be looked at in a new way. EUREAU endorses the 3Ts approach (Tariffs, Taxes, Transfers) developed recently by the OECD. This approach creates transparency and allows proper identification of the suitable funding sources. Today, the majority of the costs is covered by

tariffs, and complemented by some taxes at the local level. Unfortunately, trans-boundary or trans-generational solidarity doesn't take place in an appropriate way. Investment in water infrastructure demands a higher level of solidarity.

In doing so, EUREAU strongly supports the application of the WFD principles, such as polluter-pays, and user-pays principles.

Another element of the WFD of paramount importance is the basin or sub-basin approach. This is a suitable scale for examining land-occupation patterns, as they will strongly determine the quantity and quality of water flows. It is important that extreme weather impacts are documented. Public participation, in particular the participation of local water and wastewater utilities, is essential and not yet achieved. Nevertheless, this is critical to ensure the long term sustainability of the decisions made.

3. *What are your views on the Blueprint proposal to look into a regulation establishing common EU environmental/health **standards for reused water**?*

Almut Bonhage, Secretary General, EUREAU:

We very much welcome the intention of the Commission to regulate the reuse of water, because the current lack of minimum EU environmental and health standards are unsatisfactory for several reasons:

1. Reuse is practiced de-facto (e.g. for food-crops) with health impacts.
2. Minimum standards (taking into account health and environmental aspects) should be established at the EU level to ensure a level playing field and no longer by national authorities, which result in variability in targets and enforcement.
3. Many European basins don't need water reuse. But for those who need it, projects cannot take off, because of lacking legal certainty on quality criteria. This gap is a serious barrier to a comprehensive management of scarce water resources.

4. *In your opinion, are there other effective ways to encourage **water re-use for irrigation or industrial purposes** as a key alternative water supply option in the EU?*

Almut Bonhage, Secretary General, EUREAU:

Currently, the lack of standards is the main break. Now, the WFD is the key legislation – providing the goals and planning tools. Basins and cities are to determine if and where reuse of water needs to be envisaged, taking account of the principles of cost-recovery etc.

We know that in many basins, we are going to be short of water to ensure the so-called legitimate uses. Such basins have to examine the potential of reuse scenarios to solve their problems.

Niels Peter Nørring, Director, Environment & Energy Division, Danish Agriculture & Food Council:

The overarching question when discussing a new water policy for Europe should be: How to achieve sustainable intensification? Meeting environmental demands can and must be compatible with achieving global food security as well as the economic welfare of Europe's citizens.

Europe is in dire need of creating new growth and new jobs and accordingly needs to revitalise its industrial and agricultural production. This challenge has to be met amidst a plethora of environmental demands, from climate change to water pollution.

European farmers and agri-cooperatives have the ability to meet the economic and environmental challenges, but in order to do so, sustainable intensification[14] of agricultural production has to be achieved. Thereby we can enhance growth while reducing environmental pressure.

Water resources are becoming scarce while population growth is causing an increasing demand for water. We therefore need a high focus on resource efficiency and must intensify water use in a sustainable way by decoupling the water use from production. In other words: Produce more food with less water. An effective way to achieve this goal is to re-use water whenever possible.

Firstly: In order to re-use water for industrial and agricultural purposes regulative barriers must be removed so obsolete rules do not hinder re-use. Secondly, sustainable intensification of agricultural production and manufacturing is not achieved over night and we therefore need a continuous focus on innovation and methods of production, and an on-going partnership with suppliers of technology and hardware. Thirdly, an analysis of what quality of water is needed for which processes is also required in order to know where it is appropriate to use re-used water and to what quality level the water needs to be rinsed. Finally, it is important to continuously focus on innovative solutions and technologies that secure high standards of food safety when re-using water.

5. *In your opinion, what is the best way to restrict negative impacts to the aquatic environment from* ***pharmaceuticals****?* ***Is there a need to change their authorisation procedure to better take account of their environmental risks****?*

[14] See FAO (2011): Save and Grow – a policymaker's guide to the sustainable intensification of smallholder crop production.

European Federation of Pharmaceutical Industries and Associations (EFPIA):

The main source of pharmaceuticals in the environment is through patient excretion of substances: trace amounts of medicines pass through the human body without being metabolised completely and make their way into surface waters through the municipal wastewater treatment system. There is currently no evidence of human harm and very limited and non-conclusive evidence of environmental harm associated with pharmaceuticals in the environment (PIE). However, the pharmaceutical industry acknowledges and supports greater efforts in understanding the potential for long term environmental impact of man-made substances, including medicines, and in minimizing their release into the environment.

There are two main areas of legislation which exert control over the environmental aspects of medicinal products and their manufacture and use. The EU medicines legislation requires environmental risk assessments conducted according to the EMA Guideline of December 2006 as part of the application for marketing approval of any medicine. The EU environmental legislation, through the Industrial Emissions Directive (IED) (2010/75/EU), applies strict controls on the environmental impacts of the biological and chemical manufacturing activities related to medicinal products, and EFPIA agrees that the use of this legislation is appropriate for controlling those activities.

However, it is our view that life cycle aspects of finished medicinal products should be considered under medicines legislation. This includes, in addition to any environmental risk assessment, the risk-benefit approach associated with patient use of medicines.

Any debate about the impact of pharmaceuticals in the environment needs to be based on sound scientific evidence. Due and proportional account of the wider public health considerations of the European population should also be considered, including the current and future needs of patients for access to medicinal products. Any framework for action arising from the debate must ensure that environmental issues are appropriately managed without undermining patient needs, public health or medical research.

6. *Would the addition of the Directive on Sustainable Use of Pesticides to cross-compliance, as proposed by the Commission, help reduce pesticides risks?*

Niels Peter Nørring, Director, Environment & Energy Division, Danish Agriculture & Food Council:

European agriculture needs fewer, simpler and more targeted regulations. The aim of the CAP-reform should therefore be a simplification of cross-compliance – not a relentless addition of new rules and regulations. Sustainable intensification means producing more with less. This also applies to pesticides, but the task should be targeted to where it has the

biggest impact – not governed through cross-compliance. When regulating pesticides we should get the proportions right:

- First of all we need to be sure that the products we have at our disposition are the best on the market. The approval system must ensure this swift introduction of new and better products, while making sure that harmful products cannot be used.
- Secondly, we should target point sources by avoiding spillage and dilution of pesticides. The rules are in place – all we need is innovative equipment and changed behaviour.
- Thirdly, behaviour affects how pesticides are applied. Farm advisory services and training of farmers – not additional rules –are key in ensuring the sustainable use of pesticides.
- Finally, once we have had a sound approval of pesticides, point sources have been managed, and behaviour in the field shaped by advisory services and training, we should aim at using as little as possible. IPM (integrated pest management), market based organic farming, and intelligent crop rotation systems could be areas of encouragement in this regard.

4 Session IV: EU Water Efficiency: Accounting, Allocating, Using, Recovering Costs

4.1 Scope of the session

Aspects of water efficiency to face trends on the increase and spread of water scarcity and water stress are addressed in Session IV of the conference.

According to the Blueprint,[15] in addition to water efficiency measures in all main water-using sectors, water accounts and water efficiency targets would provide a stronger basis for effective and targeted water protection measures. Water accounts developed by the EEA and European Commission at river basin and sub-catchment level need to be refined with Member States and stakeholders. Water accounts can tell water managers how much water flows in and out of a river basin and how much water can realistically be expected to be available before allocation takes place.

In the Blueprint, the Commission also proposes that water efficiency targets should be developed by river basin authorities for the river basins which are – or are projected to be – water stressed on the basis of the water stress indicators developed in the CIS process. These targets could be integrated in water allocation and objective setting in the RBMPs.

15 See Commission Communication, A Blueprint to Safeguard Europe's Water Resources.

Water efficiency in buildings and agriculture could be fostered, respectively, by including water-related products in the working plan of the Eco-design Directive and by supporting irrigation efficiency within the CAP reform.

Usage of water pricing, metering, and cost-recovery for water services represent key actions, which can contribute to significant water savings. While continuing its enforcement actions to ensure compliance with relevant provisions of the WFD, the Commission proposes developing a CIS guidance document on the methodology for assessing costs and benefits of water measures in support of cost-effectiveness and payments for ecosystems services.

Finally, the instrument of water trading in specific river basins could help to improve water efficiency and overcome water stress. The Commission proposes developing CIS guidance to help interested Member States in establishing a water trading system.

4.2 Questions for Discussion

The following questions are proposed for discussion with the panelists of this session and the conference audience based on key proposed policy options in the Blueprint:

1. What are your views on the Blueprint proposal to widely implement (in Member States and river basins) the **water accounts** developed by the Commission and the EEA at river basin and sub-catchment level?
2. What do you think of the Blueprint proposal to develop a common EU methodology for the establishment of **water efficiency targets** in the CIS process? Are targets useful? Under what conditions?
3. What are your views on the Commission proposal for the reform of the CAP to make **funding for improvements to irrigation efficiency** conditional to minimum efficiency thresholds and metering?
4. What else can be done to **improve irrigation efficiency**?
5. In your opinion, what is the best way to ensure compliance with the requirements of WFD Article 9 on **pricing policies and cost-recovery**? What have been the main barriers to its implementation? Should the Commission require that pricing policies are based on volumetric metering?
6. What are your views on the Blueprint proposal to develop a **CIS guidance document on the methodology to assess costs and benefits** of water measures (supporting cost-effectiveness and the further implementation of the notion of payments for ecosystem services)?
7. What is your view on the Commission proposal to include **water-related products** (in particular taps and showers in buildings) in the workplan of the Eco-design Directive?

4.3 Preliminary Views of Session Panelists

The following sections present the views of individual panelists on the proposed questions.

In regard to the wide implementation of water accounts based on the EC-EEA approach, CEDEX states that the fulfilment of the water accounting system should a) account for subsidiarity, b) be based on harmonised common accounting rules rather than trying to implement a fixed model that hardly fits the reality of all water management issues, and c) account for an appropriate dataflow system. A senior water economist from Wageningen University adds that European funding may be needed for implementing surveys to ensure EU comparable data.

On the option of developing a common EU methodology for the establishment of water efficiency targets**,** CEDEX argues that targets must indeed rely on efficiency rather than on water allocation since the limits on allocation would be a response measure for achieving efficiency, and never the contrary. The senior water economist from Wageningen University advises the EU to propose a common accurate methodology for measuring water stress as an alternative and then work to reduce it.

The Water Director of Cyprus supports the promotion of technologies and practices towards irrigation efficiency through CAP funding. In addition to advanced irrigation systems, funding should also support improvement of present systems and non-irrigated crops. The measure will only be effective when it is accompanied by water metering. The senior water economist from Wageningen University adds that the CAP should be reformed to allow money transfers only to farmers in regions in which water quantity/quality is good and farmers should only be allowed to use a specific limited quantity of water.

The senior water economist from Wageningen University also provided his views on pricing policies and cost recovery. He emphasises the necessity of prices to be based on volumetric metering where water is scarce and that meters should always be used in areas suffering from water stress. He supports the idea of coordinating the measurement of costs and benefits (CIS guidance document) in terms of viable line-items and estimation techniques, but it is important to ensure that *all* options are considered for cost effectiveness (e.g. demand-side as well as supply-side solutions to water scarcity).

A representative of Hansgrohe SE (corporation specializing in sanitation) presents his views on the Commission's proposal to include water-related products in the Eco-design Directive. He welcomes a clear EU directive with well-balanced requirements because differing regulations lead manufacturers to the development of a lot of specially adapted products, which can negatively affect the prices for devices.

Panelist replies to questions:

1. *What are your views on the Blueprint proposal to widely implement (in Member States and river basins) the **water accounts** developed by the Commission and the EEA at river basin and sub-catchment level?*

Conchita Marcuello, Technical-Scientific Programme Coordinator, CEDEX:

Water accounting should be a top priority in any water planning process. Water accounting implicitly underpins the concept of integrated water resources management because management requires knowledge of the number of units of the object being managed. For example, in Spain where water quantity is an issue, this exercise was already fulfilled for the development of the pre-WFD hydrological basin plans in the form of water balances. Water balances have been also fulfilled at different temporal and spatial scales in European Mediterranean basins, through different national and international initiatives. Thus, the initiative of the Commission and the EEA is not new in this sense, though it has the "innovative" approach of streamlining the water-balance exercise with the UN SEEAW (System of Environmental-Economic Accounting for Water), which is considered to be a sound worldwide system.

The EC and EEA propose implementing the UN SEEAW system by using a uniform model across Europe. This approach requires both the validation of methodology and the adaptation of existing tools in each river basin, which is not immediate or easy work. In addition, the EC-EEA approach is based on a spatial scale which may not match the spatial units in which water balances and water management are carried out in each territory. For all these reasons, the fulfilment of the water accounting system should a) account for subsidiarity, b) be based on harmonised common accounting rules rather than trying to implement a fixed model that hardly fits the reality of all water management issues, and c) account for an appropriate dataflow system.

Nevertheless, it would be of great help to have results of some pilot exercise on a river basin scale in order to have a better knowledge of the pros and cons encountered with the real implementation of the EC-EEA model approach.

David Zetland, Senior Water Economist, Wageningen University:

A critical question is whether the EU will pay for the costs of implementing surveys (e.g., stream flow gauges, groundwater monitoring wells, etc.) to measure both quality and quantity. If not, it is questionable how the EU will ensure that data is comparable across the EU.

2. *What do you think of the Blueprint proposal to develop a common EU methodology for the establishment of **water efficiency targets** in the CIS process? Are targets useful? Under what conditions?*

Conchita Marcuello, Technical-Scientific Programme Coordinator, CEDEX:

Water allocation is determined by dividing the total volume of water used by some economic or functional activity by the unit representing that activity. Therefore, any trial of normalisation of water allocation implies either: a) the normalisation of total water used for the corresponding economic or functional activities or b) the normalisation of the units, which use that water. In both cases, this normalisation at the European level is in opposition to the economic development of any territory, unless some major and inevitable risk of collapse of water resources is faced, which is not the case in any European basin.

Another issue is efficiency, which should always be maximised, particularly when water resources are concerned. Maximisation of efficiency enhances economic development, involves sound integrated water resources management and provides a lot of room for innovation. Thus, targets must be tied to efficiency rather than water allocation because the limits of water allocation would be a response measure for achieving efficiency, and never on the contrary (one can inefficiently use certain volume of water even when the quantity is very low or the quality high).

David Zetland, Senior Water Economist, Wageningen University:

There are several open questions related to this: How do you define efficiency? Does it matter if water is scarce or abundant? Do you know the value of water? The EU would be better served by proposing a common methodology (and an accurate one) for measuring water stress and *then* working to reduce it. Such a reduction will require EU members to find ways to allocate reduced quantities (via political and economic means) and/or improve quality. Efficiency targets are *only* useful when it's impossible to move water among users (i.e. monopoly – often the government). That implies that a monopoly immune to incentives is at the actual root of the problem.

3. *What are your views on the Commission proposal for the reform of the CAP to make **funding for improvements to irrigation efficiency** conditional to minimum efficiency thresholds and metering?*

Kyriacos Kyrou, Water Director, Cyprus:

Improvements to on-farm irrigation efficiency tools are the farmer's responsibility. However, the initial investment cost as well as the relevant technical advice could be funded in order to give the necessary motion to the acceptance of the measure. In Cyprus, the installation of on-farm advanced irrigation systems was funded in rural areas during the 80's and 90's under the framework of a number of Rural Development Projects supported by the UN and

funded by the IBRD and the EIB. The result was the wide acceptance and application of those systems. As a result today all farmers irrigate their land using advanced irrigation technologies bearing the full cost of installation and maintenance. Thus, the promotion of technologies and practices towards irrigation efficiency through the CAP funding would be helpful and result in both short-term as well as long-term water savings.

It is important to note that funding of irrigation efficiency technologies should not only promote the introduction of irrigation systems that are more advanced than traditional ones, but also reinforce further improvement of the present systems used. Thus, the increase in water irrigation efficiency rates included in the regulation should be dependent on the improvement achieved, taking into consideration the present system. Also, non–irrigated crops would be eligible for funding in the future if needed.

Needless to say the measure will invite further research and improvements in the technology available.

The measure would not be effective enough if not accompanied by water metering.

David Zetland. Senior Water Economist. Wageningen University:

The CAP can and should be reformed to allow money transfers *only* to farmers in regions in which water scarcity and quality is *good*. That implies that most CAP funding will be withheld, but why give money to those who are destroying their water supplies (often with the knowledge that they will be bailed out)? Note also that irrigation efficiency leads – 90% of the time – to farmers using "saved" water for more crops – not leaving it for nature, cities, etc.

4. *What else can be done to **improve irrigation efficiency**?*

Kyriacos Kyrou. Water Director. Cyprus:

Considering that agriculture is the most water demanding user in Europe irrigation water efficiency is of high importance and should be given priority in the relevant water management activities. Having experience of severe water scarce conditions and having applied a number of policies and practices we believe that the following should be the most important:

1. **Water allocation programs** taking into account the water availability and water needs.
2. Development of a systematic "**water accounting**" system that will give water

managers all relevant information regarding volumes, consumption, etc.

3. Introduction of a **quota system** based on water availability.
4. Development of local **Drought Management Plans**, which set specific actions towards water availability forecasting and relevant actions.
5. Promote the use of on-farm **technologies and practices** towards irrigation efficiency, e.g. avoidance of gravity irrigation, installment of advanced irrigation systems, apply irrigation scheduling programs, use moisture sensors where applicable.
6. Making **water metering** mandatory.
7. **Minimise leakages** from distribution networks.
8. Apply a **water pricing system to** encourage water saving, e.g. volumetric pricing and overconsumption charges, paying particular attention to affordability. Prices should be a tool towards efficient water use and not land abandonment.
9. Give farmers relevant **economic and other incentives** as well as guidance to introduce the new systems, devices and practices referred to above.
10. Find and develop ways to **eliminate illegal abstraction.** In order to have applicable and efficient ways, promote relevant research projects on the national and EU level.
11. **Land use and cropping pattern** should be studied carefully in order to promote a water efficient agricultural model. It is important to promote the cultivation of low water demanding crops taking into consideration other relevant factors like food needs markets, trade, processing industry, culture, etc.
12. Keep **people aware** of the water balance problems and water scarcity conditions.
13. Use proper instructions in the national **Code of Good Agricultural Practice.**

David Zetland. Senior Water Economist. Wageningen University:

Limit how much water farmers can use. They will find a way to be efficient. You can also allow them to sell “saved” water, but make sure they do not turn to and overdraft groundwater.

5. *In your opinion, what is the best way to ensure compliance with the requirements of WFD Article 9 on **pricing policies and cost-recovery**? What have been the main barriers to its implementation? Should the Commission require that pricing policies are based on volumetric metering?*

David Zetland, Senior Water Economist, Wageningen University:

Customers should be charged their share of fixed capital and maintenance cost. They should also be charged the variable cost for water service. Charging less implies that the system is under maintained, which will lead to safety and reliability issues. Prices in water-scarce areas should be even higher to reduce demand to within sustainable supplies. Viable and credible oversight and regulation of utilities is important to ensure that costs are accurate and not the result of laziness and inefficiency. Prices should be based on volumetric metering where water is scarce. In water-rich regions where there is no concern for consumption, water services can be charged on a flat rate based on number of inhabitants, living area, landscaped area, home value, etc. However, it is often fairer to charge based on volumes. The only question then is whether the cost of installing meters is worth the gain in "fairness" from redistributing costs. Meters should always be used in areas suffering from water stress.

6. *What are your views on the Blueprint proposal to develop a **CIS guidance document on the methodology to assess costs and benefits** of water measures (supporting cost-effectiveness and the further implementation of the notion of payments for ecosystem services)?*

David Zetland, Senior Water Economist, Wageningen University:

It is a good idea to coordinate and normalise the measurement of costs and benefits in terms of viable line-items and estimation techniques, but it is important to ensure that *all* options are considered for cost effectiveness (e.g. demand-side as well as supply-side solutions to water scarcity). Payments for ecosystem services can go wrong in many ways, so it is important to implement programs where benefits are far greater than costs to prevent expenditures that support existing practices (e.g. additionality) and/or lead to actions that produce perverse outcomes (e.g. biofuels). It is better perhaps to assume that ecosystem services *must* be provided and penalize those whose actions degrade ecosystems.

7. *What is your view on the Commission proposal to include **water-related products** (in particular taps and showers in buildings) in the workplan of the Eco-design Directive?*

Werner Heinzelmann, Head of intellectual property, Hansgrohe SE:

History

The pre-study for the amended Workplan of the Ecodesign Directive (Task 1, 2 and 3)

showed that taps and showers can contribute considerably to general energy saving in buildings.[16]

Therefore, these products were added to the list of product groups considered to be a priority for implementing measures in 2012 -2014 on Top 2.

Due to a lot of remarks coming from Member States and organisations, these products (taps and showers) were then removed from the priority list, being unclear when or if they would be back on the list.[17]

Facts and problems

Some of the arguments are that there is no need to have mandatory measures under the Ecodesign directive, because there are already labelling systems in the market, which will cause a reduction of the flow rate for these products and therefore also reduce the energy and water consumption, e.g. WELL (Water Efficiency Label) and in preparation the EU Ecolabel.

On the other hand, there are already a lot of special requirements for flow rates in certain regions for touristic places like camping and hotels.

Additionally, there are building requirements and standards like GPP (Green Public Procurement), LEED, BREAM and others. The flow rates of LEED are often required, but these are established under other conditions outside of the EU and do not fit with EN standards for the installation of devices.

All these parallel existing requirements are not really consistent and often result in confusion. This situation is especially bad for manufacturers because they have to react with a high number of special adapted products in mini-series, which also has a negative effect on prices. To avoid this, a clear EU directive with well-balanced requirements would be helpful.

Otherwise, we have no harmonised standards for products to which an EU directive can refer because we have a lot of different requirements within Member States. This is particularly true for materials in contact with drinking water, besides other formal requirements and regulations in some Member States.

Hence, it is understandable that the EU has previously postponed taps and showers from the priority list.

Additionally, the industry already offers a lot of products addressing water and energy saving needs and this product range is growing fast. Whether legal action in this field is necessary will be a consideration for the near future.

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16 See http://ec.europa.eu/enterprise/policies/sustainable-business/ecodesign/product-groups/, http://www.ecodesign-wp2.eu/

17 *Note:* The Blueprint includes water-related products in the Ecodesign working plan, which covers taps and showers.

David Zetland, Senior Water Economist, Wageningen University:

These directives can lead to excessive costs in places where water is not scarce or where (expensive) devices are not used to their "estimated" capacity (e.g. low flush toilets in low traffic areas). Devices do not necessarily lead to changes in activities like double flushing a low flush toilet. It's easier to charge higher prices for water and assume that people will find the most efficient way to reduce their water bills.

5 Session V: Global Aspects

5.1 Scope of the session

The primary focus of the Blueprint is on Europe's waters. Water is a local issue but it is also a global problem interlinked with many issues such as food security, desertification, climate change, the impact of natural and man-made disasters etc., which all have significant economic, social and security dimensions. The EU is engaged in many of these areas following its commitments under Agenda 21, the three Rio Conventions on desertification, climate change and biodiversity, the Millennium Development Goals (MDGs) related to water, the Johannesburg Plan of Implementation and most recently the Rio+20 Conference. This engagement will continue to be a high priority for the EU.[18]

Given the new thrust of EU development policy[19] and the priorities and strategies of partner developing countries and regions, the focus of water management in EU development cooperation should be on the following aspects:

- **Access to safe drinking water and basic sanitation services** that was declared a human right by the United Nations in 2010 and reaffirmed in the Rio + 20 Declaration in 2012.
- **Water for economic growth and sustainable development**: The EU will pay particular attention to the allocation and use of water to the economic sectors and the nexus water-agriculture-energy-environment.
- **Water governance**: An effective institutional setting leading to good water governance at the river basin level is key to achieve the Rio Declaration commitment to "significantly improve the implementation of Integrated Water Resources Management (IWRM) at all levels as appropriate."

There will also be a need for coordination mechanisms between EU partners and partner regions, which could build on the EU Water Initiative (EUWI)).

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18 See Commission Communication, A Blueprint to Safeguard Europe's Water Resources.

19 Agenda for Change - COM (2011) 637 final, adopted on 13 October 2011.

5.2 Questions for discussion

The following questions are proposed for discussion with the conference audience:

- How do you think the EU could best contribute to solutions to global water shortage and to improving global water governance?
- What do you think of the focus of water management in EU development cooperation (see Blueprint)? Would you like to add to the proposals on this issue?

6 Session VI: Crosscutting Solutions

6.1 Scope of the session

This conference session addresses crosscutting options to further the objectives of EU water policy mainly relating to the improvement of the knowledge base and the reinforcement of governance.

According to the Blueprint,[20] the Commission proposes to continue to develop the Water Information System for Europe (WISE) and ensure that the regulations on Environmental Accounts and Statistics[21] include the information requirements that are most useful for water policy needs. The Commission also aims to further harmonise reporting cycles under water legislation in order to reduce administrative burdens by proposing further integration and where necessary, targeted amendments of the relevant legislation (WFD, Nitrates Directive, UWWTD).

Concerning governance, the Commission proposes to set up a simple and voluntary peer review system through which RBD authorities can submit their draft RBMPs to the review of other RBD authorities, within the same or in other Member States.

In addition, the Commission proposes to introduce specific requirements from the WFD in the CAP cross-compliance within the CAP reform. Moreover, the water sector is one of the primary areas the Commission is looking into for the development of minimum inspection requirements at Member State level, in the context of the EU initiative on inspections.

Finally, the Commission will look into water-related aspects in the Annual Growth Survey and into country specific recommendations as appropriate for individual Member States in the framework of the European Semester exercise.

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20 See Commission Communication, A Blueprint to Safeguard Europe's Water Resources.

21 Regulation (EU) No 691/2011 of the European Parliament and of the Council on European environmental economic accounts, OJ L 192, 22.07.2011.

6.2 Questions for Discussion

The following questions are proposed for discussion with the panelists of this session and the conference audience, based on key proposed policy options in the Blueprint:

1. What are your views on the Blueprint proposals to prioritise the full interoperability of **WISE** (Water Information System for Europe) and ensure that the regulations on **Environmental Accounts and Statistics** include information requirements most useful for water policy?
2. Are there other ways to improve the **knowledge base/sharing** on aquatic ecosystems that should be pursued at European and Member State level?
3. What are your views on the Blueprint proposal to set up (in the CIS) a simple and voluntary **peer review system** through which RBD authorities could submit their draft RBMPs to the review of other RBD authorities?
4. In your opinion, are there other ways for the EU to best contribute to improving and reinforcing **water governance**? How do you consider that River Basin Authorities could be empowered to better facilitate integration between all relevant planning processes?
5. What do you think should be the specific WFD requirements **added to the CAP cross-compliance** mechanism? How can the EU help improve the interaction between agriculture and water inspection authorities at Member States level?

6.3 Preliminary Views of Session Panelists

In the following sections, the views of individual panelists on the proposed questions are presented.

The EEA comments on the development of water accounts and plans to develop a system of natural capital accounts that include environmental objectives and targets for the maintenance and restoration of ecosystems. Concerning WISE, on-going improvements of the system include recent developments of the knowledge base such as enhanced information on water quantity and the risk of possible water scarcity as captured by water accounts.

The EEA also proposes other strategies to improve the knowledge base and information sharing, such as complementing European-level indicators (as developed and used by EEA or Eurostat) with regional-level indicators on river basin level, further developments in the organisation of data held at EEA, use of information from the European climate adaptation platform, better information exchange between EU and Member States via the Structured Information and Implementation Frameworks (SIIF).

The panel representative of the River Basin District of the Tiber River supports the Commission proposal to set up a peer review system through which RBD authorities could submit their draft RBMPs for review by other RBD authorities. This would facilitate methodological exchanges as well as contribute to an improved understanding of the different problems faced by each RBMP and their feasible solutions.

Concerning other strategies to empower river basin authorities, the panel representative of the RBD Tiber proposes that RBD authorities should be in charge of disposing of the financial resources necessary for successful implementation of RBMPs (public works, infrastructure, specific actions in each sector, actions to improve water governance, monitoring). While it is unrealistic for RBD authorities to manage all decisional levels (for example, the kind of purification plants which have to be realised), they could ensure that all actions (and financial resources) follow the RBMP goals.

On the issue of adding WFD requirements to the CAP cross-compliance mechanism, the UK Water Director comments that linking WFD with cross-compliance has the potential to increase compliance provided it is designed in a way that is transparent, simple and does not bring about any significant increase in burdens on farmers and inspection agencies.

Panelist replies to questions:

1. *What are your views on the Blueprint proposals to prioritise the full interoperability of **WISE** (Water Information System for Europe) and ensure that the regulations on **Environmental Accounts and Statistics** include information requirements most useful for water policy?*

Ronan Uhel, Head of Programme, Natural Systems and Vulnerability, EEA:

The concept of accounting is well established in business and financial management of assets. But it is also relevant to environmental resource management at large and to the management of water in particular. Creating a system of environmental accounts for water can help inform river basin managers on how much water is present in a river basin, and how much of this water is available for abstraction by industry, agriculture or residential homes. Water accounts of this nature allow allocations of water to the different water uses by humans, respecting the boundaries of sustainability, and without jeopardizing the good status of the ecosystems in the river basin.

This knowledge of the local hydrological situation provides the foundation for sound water economics and underpins monetisation methods for a scarce resource. Comprehensive water accounts also help inform communication between different water users and assist in the effective implementation of all elements of water policy.

The EEA has developed such a system of water accounts. These water accounts constitute the water component of the much larger System of Environmental and Economic Accounts

(SEEA), as proposed by the UN statistics division to integrate environmental and economic evaluations. However, the original UN proposal (Volume 1 of the SEEA) struggled to articulate environmental objectives and targets against which balances of water, or carbon could be assessed. Therefore a second volume of SEEA is currently being developed with help from EEA experts. This second volume will develop a system of natural capital accounts that include these objectives and targets for the maintenance and restoration of our ecosystems. The Water Framework Directive objective of 'good status' - both for water quality and water quantity - should be the central parameter for water in this second SEEA volume.

In the period from 2003-2011, much of the data collected and assembled by WISE focused on water quality. On-going improvements of the system include recent developments of the knowledge base such as enhanced information on water quantity and the risk of possible water scarcity as captured by water accounts.

2. *Are there other ways to improve the **knowledge base/sharing** on aquatic ecosystems that should be pursued at European and Member State level?*

Ronan Uhel, Head of Programme, Natural Systems and Vulnerability, EEA:

Improving the current knowledge base for water policy is critical. At present the European knowledge base for water policy is organised mostly around a series of so-called 'indicators', which monitor individual environmental phenomena. For example, nutrient concentrations in different surface or ground waters might be one indicator, while percentage of river basins affected by hydromorphological pressures might be another. European-level indicators - as developed and used by EEA or Eurostat - inform the wider, European-level picture. This information can be used to help guide the development of regional-level indicators on a river-basin level.

At the same time major developments in the organisation of the data held at EEA will facilitate more flexible reporting mechanisms, better integration between the different strands of information, and better data sharing between Member State and EU level. Reporting under environmental legislation is supposed not only to enable compliance checks, but also to help policy evaluation and therefore allow for further policy improvement. This process of policy assessment and refinement is greatly helped by a common, EU-level knowledge base, like WISE. It is also helped by environmental assessments provided by EEA. Water policy in the form of the second round of River Basin Management Plans will also be informed by the actions taken in the framework of the national climate change adaptation strategies, accessible via the European climate adaptation platform (Climate-Adapt).

Effective policy requires sharing of the information held by Member States to keep track of national implementation measures, as well as Member States' evaluation of their own effectiveness. The Commission issued a Communication in early 2012 on better implementation to help improve implementation of environmental policy at Member State level. The Communication focuses on better information exchange between the EU and Member States by means of so-called Structured Information and Implementation Frameworks (SIIF), established for each policy area. For the water-related reporting mechanisms under the Urban Waste Water Treatment Directive, the Nitrates Directive and the Bathing Water Directive, this could entail the fostering of common assessments of the results of these directives using WISE in a more integrated and interoperable infrastructure.

3. *What are your views on the Blueprint proposal to set up (in the CIS) a simple and voluntary **peer review system** through which RBD authorities could submit their draft RBMPs to the review of other RBD authorities?*

Leonardo Gatta. Responsible of Water Resources Operational Unit. Tiber River Basin Authority:

This could be a good proposal in terms of methodological exchanges and also to better understand the different problems of each RBMP and their feasible solutions. In this way, all the RBD authorities should move in time in the same direction.

On the other hand, it could be difficult for the RBD authorities to decide what level of draft RBMP can be shared with other RBD authorities. A draft of the RBMP should be well organised in order to be readable. It could be possible to organise a questionnaire (i.e. multiple choice questionnaire), which the RBDs would fill in for each RBMP in order to simplify and focus to specific items in a peer review system. In a second step, it would be possible to review the whole RBMP for in-depth examination.

4. *In your opinion, are there other ways for the EU to best contribute to improving and reinforcing **water governance**? How do you consider that River Basin Authorities could be empowered to better facilitate integration between all relevant planning processes?*

Leonardo Gatta. Responsible of Water Resources Operational Unit. Tiber River Basin Authority:

The EU could better direct its financial support by providing different sectors with overlapping goals and objectives with combined or integrated funding. Furthermore, the EU could introduce more appropriate instruments, like environmental accountancy, in order to collect

from the beginning of each policy process the necessary data.

The River Basin Authorities do not have the same institutional responsibility in each Member State. The RBD Authorities should be in charge of disposing of the specific financial resources necessary for the implementation of the RBMP (public works, infrastructure, specific actions in each sector, actions to improve water governance, monitoring). In Italy, some specific national funds for the water sector are managed by the Ministries and some others by the Regions. Also the European Structural Funds and the funds under the CAP are managed by the Regions and, in many cases, funds are spent without considering the RBMPs. The RBD authorities should be in charge of managing the financial resources of the high decisional level (all the financial resources for the implementation of the RBMP that the next decisional level (the Regions in Italy) has to use) and then monitor the other local decisional levels through specific reporting by the Regions. The RBD authorities could not manage all the decisional levels (for example, the kind of purification plants which have to be realised) but they could ensure that the actions (and the financial resources) follow the direction of the RBMP goals.

5. *What do you think should be the specific WFD requirements **added to the CAP cross-compliance** mechanism? How can the EU help improve the interaction between agriculture and water inspection authorities at Member States level?*

Sonia Phippard, Water Director, UK:

There is a legal obligation on Member States to deliver the WFD, and there is a societal expectation that if farmers are to receive public money, they should comply with relevant legal provisions. Linking WFD with cross-compliance has the potential to increase compliance provided it is designed in a way that is transparent, simple and does not bring about any significant increase in burdens on farmers and inspection agencies. If we can achieve such a system, the UK can be supportive in principle of the inclusion of some of the WFD requirements within cross-compliance in the long term.

In England, the current measures are delivered through a mixture of regulation and existing cross-compliance. We are working to build on this to ensure that all relevant aspects of Article 11.3 WFD are covered and which could in theory lead us towards an eventual inclusion within cross-compliance.

An essential part of implementing the WFD is working closely with land managers and stakeholders to design a scheme that provides advice and guidance in the right way and that facilitates compliance.

For example, in Scotland we have General Binding Rules (GBRs) that work well largely due to the good engagement we have with land managers and their representatives.

We want to continue to work with land managers to reach compliance with baseline regulations before using this additional enforcement tool.

If we are to include elements of WFD in cross compliance, we need to ensure that there would be no overlapping requirements with other Statutory Management Requirements (SMR) and Good Agricultural and Environmental Conditions (GAEC) and that any proposed measures would address significant pressures. Regulatory burden on farmers would therefore be minimised and kept proportionate.

In terms of specific WFD requirements, we consider the following areas worth exploring: basic controls to cover **abstraction**, **point source discharges**, **diffuse pollution** and discharges to **groundwater**. On hydromorphology, until a baseline is set and monitoring methodology developed, we would not support its inclusion. Equally on water metering we would not support its inclusion, at present we take a risk-based approach. All irrigators have to submit readings, but some smaller agricultural abstractors take readings and keep them for inspection. If the new standards apply to all farm abstractions, not just those for irrigation, we need to avoid increasing the burden on smaller abstractors.

Measures to be considered

Water quantity (Article 11.3 e)

Respecting:

(i) Compliance with the authorisation for water abstraction (11.3.e).

At present this is covered by cross compliance GAEC 18 which applies only to irrigators. They must hold a valid licence and comply with it. It could potentially be broadened to cover any farm abstraction and impoundment.

Water quality (Articles 11.3 g, h and j)

The most relevant articles concerning water quality are articles 11.g, h and j:

- Article 11.3.g contains a requirement for prior regulation for point source discharges liable to cause pollution.
- Article 11.3.h about diffuse sources liable to cause pollution contains a requirement for measures to prevent or control the input of pollutants.
- Article 11.3.j prohibits direct discharges of pollutants into groundwater.

The substances which affect water quality resulting from agriculture are usually **nutrients**, **nitrogen**, **phosphorous** and **pesticides**. Excessive **sediment** (from eroded soil) also has a negative impact on the ecology of watercourses throughout Europe. It is presumed that a soil GAEC will be retained under the reformed cross-compliance and so is not considered here,

however it will be important to ensure that soil measures remain within cross compliance and address both water and soil issues. **Phosphate** is often the limiting nutrient in freshwaters and excess levels can result in eutrophication. In this respect, two measures could be considered:

Respecting:

(i) Mandatory requirements to control diffuse sources of pollution by phosphates as implemented in the MS (11.3.g, h and j).

(ii) Requirements for slurry storage and spreading outside of Nitrogen Vulnerable Zones, to reduce diffuse pollution of nutrients and minimise organic pollution as implemented in the MS (11.3.g, h and j).

Agriculture and water inspections: Effective management, control and sanctions systems implementing the WFD are also key for the successful introduction of the Directive into the scope of cross compliance. Member States already have a range of legally-based mechanisms in place to manage and control water abstraction, water pollution and hydromorphological alterations. They also have inspection programs or similar to control compliance with different requirements and to reveal irregularities. These inspections are mainly undertaken by governmental authorities. It is essential for agriculture and water authorities both at the local and national level to exchange information and monitoring data and to keep the administrative burden and control requirements to a minimum. We have recently streamlined our processes so that our Environment Agency can refer breaches to our payments agency for appropriate action to be taken reducing the overall control burden.