



# Changing current practice in the application of EPIs to achieve the objectives of the WFD

## Issues and options

### Authors<sup>1</sup>

Pierre Strosser · *ACTeon*

Gonzalo Delacámara · *IMDEA Agua*

Carlos M. Gómez · *IMDEA Agua / Universidad de Alcalá, UAH*

Manuel Lago · *Ecologic Institute*

Alexandros Maziotis · *Fondazione Eni Enrico Mattei, FEEM*



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## Why do we care about Economic Policy Instruments (EPIs)?

Water has always been central to the efforts of the European Union (EU) to enhance the protection of the environment and natural resources. However, after the favourable sway of more than three decades of EU water policy, **there is still logically room for improvement in the quality of aquatic ecosystems** as evidenced by many indicators capturing their current state.

There are **many factors that might explain difficulties** in ensuring a solid transition to sustainable water resources management including: the too recent focus on ecological status as encompassing objective; the absence of an integrated policy framework from the outset; or the lacking attention (either in terms of allocation of financial and human resources or policy commitment) to the implementation of the prevailing policy framework in light of current economic trends and their resulting pressures.

During these decades, EU water policy has been framed as an attempt to coordinate and harmonise policy responses and no type of instruments has been explicitly furthered, as part of the Open Method of Coordination (OMC)<sup>2</sup>. EPIs may not have been sufficiently encouraged at earlier stages, but even though some Member States (MS) chose to implement them (see, for example, nitrate taxes in Austria, Sweden and the Netherlands). Command-and-control approaches have been of utmost importance, however.

As compared to traditional supply-side policies, command-and-control instruments such as Drought Management or Flood Risk Plans, or the establishment of water quality standards, are inexpensive and largely focused on water demand management. Nonetheless, such approaches do not change the driving forces behind water consumption or pollution. Furthermore, strategic behaviour to avoid imposed targets may arise. Sometimes this has resulted in significant “rebound effects” that have worsened the ecological status of water ecosystems. The relative letdown of conventional regulatory instruments, one may argue, is to a large extent the result of the insufficient scope for economic instruments that aim at internalising externalities into economic actors' behaviour and thus can help achieving set environmental objectives in a cost-effective manner. At the end of the day, what is required is a coherent approach combining policy instruments rather than relying upon a single type.

The **EU Water Framework Directive (WFD)** adopted in 2000 has brought a first partial response to these challenges, introducing economic instruments into the EU water policy agenda through an article (Article 9) dedicated to water pricing<sup>3</sup>. At the same time, a closer look at the situations in individual MS shows a wide range of economic instruments applied at different spatial scales and for different dimensions (quantity, quality, and hydro-morphology) of water management.

Unfortunately, the question on **the proper implementation of economic instruments to help achieving environmental objectives** in an effective manner remains open to discussion. Those in favour of, or against, economic instruments, mostly back their position on a mix of theoretical and less rational arguments. There is indeed too limited evidence on how economic instruments perform in practice, and whether they effectively “internalise” the

1 · This policy paper is based on the extensive work of many EPI-Water researchers who carried out ex-post assessments for around 30 economic instruments applied in Europe and elsewhere. For more information see:

> Lago, M. and J. Möller-Gulland, 2012. WP3 ex-post case studies - Comparative Analysis Report. Deliverable 3.2 of the EU-funded EPI-Water research Project. [http://www.feem-project.net/epiwater/docs/epi-water\\_dl\\_3-2.pdf](http://www.feem-project.net/epiwater/docs/epi-water_dl_3-2.pdf)

> All background material developed for individual EPI-Water ex-post case studies is available at <http://www.feem-project.net/epiwater/pages/download-public-deliv.html>

2 · The OMC rests on soft law mechanisms (guidelines, indicators, benchmarking and sharing of best practices).

3 · Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy.

environmental dimension of water into behaviour and actual decisions. This is partly explained by the lack of baseline or counterfactual data. **To provide more practical evidence to shed light on effective behavioural changes and environmental impacts of EPIs** is one of the challenges addressed by the EU-funded EPI-Water project (see Illustration Box 1).

#### Box 1 - EPI-Water in a nutshell

The EU-funded research project **EPI-Water** (standing for: *Evaluating Economic Policy Instruments for Sustainable Water Management in Europe*) has been launched in January 2011 for a three-year period. Its main aim is to assess the effectiveness and the efficiency of Economic Policy Instruments (EPIs) in achieving water policy goals. In a first ex-post assessment, the project studied 30 EPIs in Europe and around the world. The second phase of the project (currently underway) carries out in-depth *ex-ante* assessments of the viability and the expected outcome of EPIs in five EU areas facing different water management challenges (flood risk and waterlogging in Hungary, water scarcity and drought risk in Spain, biodiversity and ecosystem service provision in France, water scarcity in Greece and water quality in Denmark).

For more information on the EU-funded EPI-Water research project: <http://www.feem-project.net/epiwater/>

**Economic Policy Instruments (EPIs)**, within the context of EU water policy, are those incentives designed and implemented with the purpose of **adapting individual decisions to collectively agreed goals** (e.g. the environmental objectives of the WFD and of its “daughter” Directives). This implies that all financial instruments, aimed in particular at cost-recovery, are not EPIs themselves - as they might not induce behavioural change. In turn, this implies that: co-operative agreements leading to behavioural changes are EPIs even without side payments or other financial arrangements; and cost recovery can be a feature of EPIs but not the essential one.

The distinctive feature of an EPI is that it is deliberately designed and implemented in order to make individual decisions compatible with water policy goals. These incentive-based policy tools can either be pricing mechanisms (tariffs, taxes, charges or fees, and subsidies), trading schemes (tradable permits for abstraction or pollution), cooperation agreements (including payment for environmental services) or risk management instruments (insurance, liability regimes). Following the definition above, all Market Based Instruments (MBIs), if suitably designed, can be EPIs, whereas the opposite is not true.

What is crucial in EPIs is the notion of **incentives, motivation, and voluntary choice**. If properly designed, an EPI must result in changes in the use of water (as broadly defined by the WFD), e.g. reducing water abstraction and water demand by adapting practices and production processes; reducing the use and discharge of polluting substances into the aquatic environment; reducing or halting hydromorphological alterations originating from specific economic and land development activities. Ultimately, this change in water use will result in a change in the status of aquatic ecosystems, **contributing to the achievement of the environmental objectives of the prevailing water legislation**.

Evidence shows that **many opportunities do exist to curb down water degradation trends**. This can be met by inducing many changes such as, for example: increasing the technical efficiency with which water is used in its diverse economic uses; re-allocating water resources in order to increase the production of goods and services without intensifying pressures over water bodies; mobilizing existing technologies and fostering innovation in wastewater treatment; or improving the quality of water bodies in order to strengthen their resilience to droughts and floods, *inter alia*. Following these opportunities is a necessary but not a sufficient condition to improve sustainability, though. For instance, water saved

## What are Economic Policy Instruments (EPIs)?

may be used to cover current water deficits in the economy rather than to improve the water environment and the sustainability of all the economic activities thus supported. The increase in water tariffs required to finance water treatment might not result in incentives to abate pollution loads. Besides, higher room for individual decisions may result in “using more water” rather than in “producing more with less” as the experience with some water trading schemes shows.

There are lights and shadows but it all suggest that EPIs, when properly designed and implemented, may have the potential to **translate existing opportunities into real outcomes in terms of protecting water resources**, reversing degradation trends and fostering innovation. This would require in particular that the design and implementation of EPIs focus on water governance as the central issue for coordinating individual decisions towards the goal of improving and protecting the ecological status of water bodies.

### What is today's practice in Europe with regards to the implementation of EPIs?

Although not applied at the European scale, a wide diversity of EPIs or economic instruments considered as EPIs is applied in different EU Member States. For example, tariffs for water services and/or sewage services<sup>4</sup> are in place in all EU Member States, while many governments have established environmental taxes and charges for water quantity and quality (see Table 1)<sup>5</sup>.

Water management issues	Instrument	Location
Water quantity	Water abstraction tax/charge	Denmark, France, Germany (not all states), Hungary, Latvia, Lithuania, Poland, Slovenia, United Kingdom
	Groundwater abstraction tax	Walloonia & Flanders (Belgium), Czech Republic
	Swimming pool licence	Malta
Water quality	Sewage disposal tax/charge	Walloonia & Flanders (Belgium), Czech Republic, Denmark, Estonia, France, Germany, Hungary, Latvia, Lithuania, Malta, the Netherlands, Poland, Slovak Republic, Slovenia, Spain, United Kingdom
	Manure tax	Flanders (Belgium)
	Water pollution non-compliance fee	Bulgaria, Croatia, Estonia, Latvia, Lithuania, Romania
	Charge/taxes on polluting substances	Croatia (nitrates/pesticides), Denmark (mineral phosphorous), Finland (pesticides), France (general), Italy (pesticides), Sweden (pesticides & fertilisers)
	Excise duty on polluting substances	Denmark (antibiotics and growth promoters)
	Charge on water purification	Spain (Castille - La Mancha)
	Other issues	Water management fee
Payments for water rights		Slovenia
Tax on environmental damage caused by uses of water from reservoirs		Spain (Galicia)

**Table 1:** Environmental taxes and charges applied to water in EU Member States

In addition to these well-known instruments, EPIs such as trading schemes or voluntary agreements<sup>6</sup> to deliver ecosystem services are applied, be it in a given MS or sometimes in a single river basin/region.

Some of the EPIs investigated in the EPI-Water research project, presented in Table 2, illustrate this diversity.

4 · The EC is pursuing legal action against nine MS for their narrow interpretation of what a water service is.

5 · Source: EEA/OECD database on economic instruments for the environment - <http://www2.oecd.org/econinst/queries/>

6 · As indicated above, Voluntary Agreements (VA) have been included as an *ad-hoc* instrument item in the broad categories of EPIs (under Cooperation). There is, however, an on-going debate in the literature about whether VA can be regarded as a “pure” EPI or not. Some economists indeed interpret the “voluntary” nature of the agreements as a version of regulation. They therefore argue that VA do not belong to the EPI category.

Water management issues	Type of EPI	Country/location
Water quantity	Water transfers	Tagus Basin, Spain
	Voluntary agreement for river regime restoration services	Lower Ebro Basin, Spain
	Voluntary intersectoral water transfer	Llobregat Basin, Spain
	Payment by the drop: The move to water metering	England and Wales, United Kingdom
	Water Abstraction Charges and Compensation Payments	Baden-Württemberg, Germany
	Subsidies for Drinking Water Conservation	Cyprus
Water quality	Cooperative agreements between water companies and farmers	Dorset, United Kingdom
	Voluntary intersectoral water transfer	Llobregat Basin, Spain
	Water Abstraction Charges and Compensation Payments	Baden-Württemberg, Germany
	Green Hydropower	Switzerland
Ecology	Subsidies for ecologically friendly hydro-power plants through favourable electricity remuneration	Germany
	Financial compensation for environmental services	Evian, Haute Savoie, France

**Table 2:** Illustrating the diversity of EPIs with selected EPI-Water case studies

Although EPIs (as water policy instruments) might, and need to, be judged for their contribution to multiple goals, such as economic efficiency, fairness, economic development, political acceptability, etc., the main assessment criterion consists in **their ability to affect behaviour in a way that improves the status of water resources and aquatic ecosystems.**

Available evidence assembled by the EPI-Water consortium through the *ex-post* assessment of around 30 existing instruments (see Illustration Box 2) suggests that **the majority of EPIs investigated has limited to no direct impact on water users' behaviour** and ultimately on the status of aquatic ecosystems.

## Have EPIs been successful?

### Box 2 - Assembling evidence on EPIs' environmental impact

The literature on the performance of existing EPIs in Europe, but also elsewhere, is rather limited. Studies that assessed EPIs' impact in terms of changes in behaviour, pressures on water resources and status of aquatic ecosystems, are very rare. To fill this knowledge gap, EPI-Water embarked on an *ex-post* assessment of around 30 EPIs applied in Europe and elsewhere (Australia, Chile, China, Israel and the USA). This *ex-post* assessment followed a common assessment framework that mobilised (often fragmented) available evidence complemented whenever necessary by semi-structured interviews with case study stakeholders.

**Exceptions to this rule include**, for instance, the voluntary agreement for river regime restoration services in the Lower Ebro Basin (NE Spain) and Green Hydropower in Switzerland, though in both cases the assessed EPIs had a limited or short-lived impact: in Switzerland, the number of hydropower plants with the green hydropower certificate (*Naturemade*) only represents 3% of total hydropower production, while in the Lower Ebro in Spain the efficiency of the flushing floods performed is decreasing. The emerging focus on the economic relevance of preserving critical water-related ecosystems has also led to innovative cooperation agreements to change current practices, thus bringing EPIs to the forefront due to their critical role both to foster behavioural changes and to share benefits at stake. This is the case of the cooperative agreements between water supply firms and farmers in Dorset (UK) and the financial compensation for environmental services in Evian (France). Although the effective environmental benefits delivered are still to be proven, they already are meaningful institutional experiences illustrating the potential contribution of EPIs to future water policy.

Even in cases when reductions on pressures to the aquatic environment are reported after the introduction of an EPI, **doubts on their actual effectiveness remain**, as the EPI is not the only candidate to explain the observed trend. To single out the actual contribution of an EPI is indeed a challenging task: EPIs are never implemented in isolation from other policy instruments (nor should they); and many macro-economic and implemented in isolation from other policy instruments (nor should they); and many macro-economic and sectoral changes that influence behaviour and water use also take place at the same time. The environmental impacts observed in some case studies (e.g. the German water abstraction charge) are in fact not caused by alleged EPIs themselves, but result from parallel schemes that support changes in practices of water users (as it was also the case of the Netherlands groundwater tax, despite its cost-recovery aim).

There are different reasons why EPIs might not perform well in terms of environmental improvements. Either the environmental outcome was not intended, with the environment being a good alibi to make new EPIs (such as taxes, charges, and subsidies) politically and/or socially acceptable (as in the case of subsidies for drinking water conservation in Cyprus) or the outcome was intended but the EPI failed because of a wrong design of its delivery mechanism (e.g. a flat rate instead of a marginal price, moral hazard, no monitoring and enforcement in place, too low prices or too inelastic demand, etc.).

In general, EPIs in Europe (and beyond) are **not designed with a clear statement of what they are meant to achieve in environmental terms**: their explicit aim is too often to raise financial revenues (which is the case of the Netherlands groundwater tax and of metering in England and Wales) or to foster the development of economic activities (i.e. water markets in Chile or Australia), with no clear reference to the environmental outcomes associated, which are in many cases expressed in an indeterminate manner rather than clearly stated. Furthermore, many of the available EPIs have **not been designed under the scope of contemporary water policy** (represented in the EU by the WFD), thus failing to effectively address the preservation or restoration of the ecological status of aquatic ecosystems bodies. Indeed, most of the EPIs in place in Europe address water quantity and chemical pollution issues, with limited attention given to ecology.

More than ten years after the adoption of the WFD, prevailing EPIs have not yet been adapted to account for new policy challenges. Limited attention has been given to that part of Article 9 that requires that *water-pricing policies provide adequate incentives for users to use water resources efficiently, and thereby contribute to the environmental objectives of this Directive*<sup>7</sup>. Most MS's efforts have indeed been targeted to enhancing reporting on cost-recovery issues with minimal policy change being made. This static state of play, recognised by the recent EU Water Blueprint that restates some of the WFD requirements linked to the role of water pricing as a driver to behavioural change<sup>8</sup>, might denote that **EPIs do not perform as well as expected in terms of their “adaptive character”**: once adopted, adjusting EPIs might face similar interests, rent-seeking practices and constraints than adapting any other arrangements proposed to manage water resources. As illustrated by recent changes in EPIs (see illustration box 3)<sup>9</sup>, economic concerns might remain today a more powerful driver to EPI adaptations than environmental concerns - even when specific regulatory requirements exist like with the

7 · Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy

8 · The EU blueprint to Safeguard Europe's Water resources stresses upon the role of pricing policies to use water efficiently (see page 10).

9 · Sources: a) EPI-water case study reports; b) Stanley, K. et al. 2012. Financing Water Management and the Economic Crisis - A review of available evidence. Final report, EU Pressures & Measures study, DG Environment.

WFD. Clearly, however, sunk costs resulting from adapting EPIs might be lower, because of the more limited reliance on infrastructure development to complement some command-and-control mechanisms.

### Box 3 • Three examples of recent “adaptations” in economic instruments in the field of water

Recent history in Europe shows that there are few examples of EPIs that have been adapted to account for their failure in achieving environmental objectives or for new environmental policy objectives.

Three examples illustrate the importance given to economic issues in explaining recent adaptations in EPIs:

- > In Hungary, the environmental focus of the pollution fee was replaced by a more standard revenue raising (to the central government budget) objective;
- > In Ireland, the long-standing Irish exception of “no water tariff” ended over night: water tariffs are being introduced as part of the overall package for stirring the country out of the economic crisis. However, these are cost-recovery instruments and not EPIs.
- > In the Netherlands, competitiveness concerns in the context of the current economic crisis, combined with pressures from the water industry, led to the repeal of the groundwater abstraction tax in 2012.

Finally, at a time when many advocate a sound knowledge-base policy making, the **absence of a formal (even partial) ex-post evaluation for most of the EPIs investigated**, and for the majority of water policy instruments, is striking. Whether the EPIs implemented fully or partially (if at all) achieved their objectives, helped improving the state of aquatic ecosystems, or impacted negatively or positively on specific users' groups seems, they are not yet a policy priority. The lack of *ex-post* assessment means that making explicit the advantages of EPIs as a complement of other policy instruments is still a pending task. Furthermore, proven facts and empirical evidence on the impacts of implemented EPIs remain very scarce - leaving doubts on whether they are effective or rather failed. Unfortunately, this is also an essential characteristic of today's knowledge on the impacts of traditional command-and-control instruments. Water is, after all, not the only scarce element of decision-making.

Although EPI-Water research is only half way, the *ex-post* assessments carried out for 30 EPIs helped identifying four critical issues to be addressed if EPIs are to play their due role in today's water policy.

#### Issue 1. Transparency and accountability in the implementation or reform of prevailing EPIs as a contribution to water governance and smart regulation<sup>10</sup>

Economic instruments may contribute to improve the efficiency of water use and thus offer a technical solution to disputes over competing uses of the resource. Resource efficiency, though, is only part of the policy dilemma. It is therefore crucial to introduce economic instruments through a meaningful dialogue with stakeholders. Acceptance of economic instruments and policy structures by water users requires transparency regarding the design of the instrument, and whenever relevant the way in which collected revenues will be used (e.g. to support changes in practices of specific water users or investments in water infrastructure).

**What should be improved to ensure that EPIs play due role in today's water policy? Visiting four critical issues**

<sup>10</sup> - Following the principles of the White Paper on European Governance [COM (2001) 428 final] and the EC communication on smart regulation in the European Union [COM (2010) 543 final].

At present, this transparency is lacking in most of the reviewed studies. Nevertheless, Baden-Württemberg (subsidies for sustainable agricultural practices funded from the Water Abstraction Charge) is a good example of how budgetary considerations and subsequent cooperation between Ministries and stakeholders influenced the design of the EPI, which enabled its implementation.

### **Issue 2. The paramount importance of the policy mix**

EPIs are by no means substitutes for command-and-control policies, but instruments that can strengthen water governance, involving the need for a change in the national government's responsibility and role. While regulatory measures are essential to ensure minimum environmental standards of water quality and quantity, including the avoidance of hot spots, economic instruments should be understood as an option to complement the policy mix to achieve certain objectives. In this context and for analytical reasons, the application of economic instruments in water management can only be assessed as part of the existing policies that are in place.

For example, the German effluent tax illustrates a sound application of a policy mix, which consists of discharge permits, pollution limits and mandatory technological standards. Although, the case study proves that the policy-mix has been mostly successful in meeting its objectives, it is impossible to single out the likely effect or benefits of the tax in isolation. Further evidence shows that although water markets can play a crucial role in allocating water resources and alleviating scarcity, environmental problems can arise (i.e. over-allocation of water in Murray-Darling Basin in Australia). Therefore, institutional arrangements such as well-defined property rights, appropriate regulations for markets and institutional representation of the environment need to be established a priori before the development of water markets. Environmental responsibility, social education and acceptance, political support and action, and an effective administrative system can be key elements for an effective water governance model.

### **Issue 3. One goal, one instrument: a sensible approach**

Individual economic instruments are more effective when targeting a single and precisely defined objective. Of course, water policy requires combining different goals but they should be the result of a policy mix rather than of single instruments. Payment for environmental services, for example, can result in improved water services and thus can be financed by capturing part of the benefits through increased or new water tariffs. A proper combination of EPIs can coordinate the main objective - inducing the behavioural change, with the instrumental objective, financing the whole scheme while allowing enough gains to give room to voluntary decisions. An irrigation tariff increase, for example, can provide additional revenues for subsidising irrigation efficiency improvements, so that water consumption is reduced and water saved transferred to, or left in, the environment.

The case of the water abstraction charge combined with compensation payments in Baden-Württemberg is also a good example of the “one instrument for each purpose” golden rule recommended for the optimal design of incentive schemes. In this case, the desired behaviour is furthered by subsidies and financing is pursued through water prices linked to abstraction standards. Other examples stem from the implementation of volumetric price systems in agriculture in Emilia Romagna (Italy), which resulted in a better allocation of water distribution costs among non-irrigators and irrigators thus eliminating any inequity problems that existed from the previous area-based only tariff system. Finally, in Germany, the remuneration of hydropower plants to make investments to improve the ecological status of water bodies next to the plants, “good ecological potential” (GEP), can also be considered as a successful instrument.



#### Issue 4. The importance of the institutional set-up

The institutional setting in which EPIs are applied may pose significant constraints to the design and performance of the incentive scheme. Its adaptation might be a pre-condition for successful implementation. For instance, the way water use rights are defined in some EU MS does not allow for ordinary water trading, and transactions can only take place under especial circumstances requiring costly negotiation and high-level official decisions. On the other hand, trading schemes require a precise definition of water use / property rights and of the circumstances under which particulars might agree to exchange and this is particularly challenging when third parties are involved and water re-allocation affects the status of water bodies along the river basin. Such schemes cannot work for the environment when water rights are improperly defined or enforced. Apart from the limited water trading experiences in Europe (e.g. in Spain), environmental concerns were not in the origin of these schemes (e.g. Australia and Chile).

The main institutional challenge of allowing water trading consists in guaranteeing that transactions that are perceived as beneficial by the deal parties are not harmful for third parties and make a real contribution to the environmental objectives of water policy. This institutional challenge increases with the size of the market being higher for inter-basin and inter-regional transactions and lower when trades take place among users in the same location (as in the Northern Colorado Water Conservancy District in US) and when exchanges are allowed for a limited set of water rights (as when only temporary use rights are traded rather than unlimited trading of full property water rights is permitted).

Transforming current water pricing practices into incentives able to work for the environment (and thus into real EPIs) implies important transaction costs (due, for example, to metering, monitoring, and administrative costs) and gaining political acceptance for these courses of action might pose a significant political challenge. Moreover, incentives can also be used to ease this institutional change. For example, more efficient water users can voluntarily accept the installation of metering devices provided they are used as means to convey information and thus to reward their behavior through lower water fees. This may facilitate the transition towards a situation in which incremental pricing would be possible (as in the case of metering agricultural water use in Emilia Romagna - Italy - and household consumption in England and Wales).

EPI-Water investigates EPIs' effectiveness in contributing to environmental objectives through their potential contribution to improvements in the status of aquatic ecosystems in line with the objectives of the EU WFD. Still, new EU environmental initiatives of direct relevance to water management have been recently adapted. Hence the potential of EPIs to contribute to the objectives of these initiatives needs to be addressed.

**Europe 2020** will act as the overall policy framework aimed at overcoming the current economic crisis and turning the EU into a *smart, sustainable and inclusive economy delivering high levels of employment, productivity and social cohesion*<sup>11</sup>. The protection and sustainable use of water resources being a crucial element in the creation of a resource-efficient Europe, improvements in water saving measures and water efficiency will be required to ensure that *water is [...] used sustainably and with a minimum resource input*. Adequately applied, EPIs as drivers to behavioural changes can clearly have a role to play in giving the right signal to water saving and water efficiency.

**Can EPIs contribute to new EU (environmental) policy debates?**

11 · European Commission, 2010. COM(2010) 2020 "Communication from the Commission - Europe 2020. A strategy for smart, sustainable and inclusive growth". Brussels, 3.3.2010. Page 3.

In the field of **climate change**, much attention is given to policy changes that enhance the resilience of ecosystems and human societies in response to increasing risk and uncertainty (droughts and floods). While traditional EPIs such as water tariffs or environmental taxes/charges are unlikely to represent adequate responses to increasing water resource uncertainty, other candidates can be proposed for strengthening the resilience of aquatic ecosystem, e.g. subsidies for promoting a) the development of green roofs to reduce rainwater runoff, or b) the establishment of open spaces that enhance infiltration to the aquifer. Trading water can also be seen as a candidate for supplementing economic development (assuming water rights account for uncertainty and adequate allowance to the environment is made) within a context of highly changing water resources and economic demands.

Finally, EPIs that are effective in influencing water users' behaviour, and thus reducing pressures on the aquatic environment, are expected to contribute to **biodiversity** and to the delivery of goods and services provided by aquatic ecosystems. In turn, benefits obtained from these goods and services will contribute to the overall economic development and thereby to the objectives of *Europe 2020*.

While there is a remarkable potential for EPIs to contribute to new EU (environmental) policy goals, their relevance depends on local contexts and conditions. For example, situations do exist where EPIs can promote behavioural change and result in further water use efficiency while delivering negative environmental outcomes. The **“one size fits all” principle remains of very limited relevance to guide a wider application of EPIs** in the field of water.

## Conclusions

Although being often sold for their better environmental outcomes, **most economic instruments applied in Europe today contribute primarily to financial and economic objectives**. While the financial resources they might generate can indirectly support practices leading to better environmental outcomes, few instruments are true EPIs resulting in changes in behaviour. Suggestions for better designing EPIs so that they induce changes in behaviour can be made. However, **re-establishing - or just establishing - the policy cycle with systematic and robust ex-post evaluation appears as a binding pre-requisite** expected to enhance their role and effectiveness (and of European water policy overall) in the medium term.

Questions arise about the ability of **prevailing EU water policy to strengthen (ex-ante and ex-post) policy evaluation**. Opportunities from the river basin to the European scales will occur as part of the **second planning cycle of the WFD** and following the **newly adopted EU Water Blueprint to Safeguard Europe's Water resources**. The latter calls, for example, for a) strengthening the role of EPIs, and b) for better water policy evaluation, promoting in particular more systematic assessment of costs and benefits of policy options.

The need to place ecological status enhancements as the central goal of EPIs, and the new challenges posed by on-going environmental challenges such as climate change, resource efficiency and land use management, provides much leeway for innovative EPIs. Innovation however does not necessarily mean “invention”. **Innovation will be much more about improving the design and implementation of EPIs** so that they achieve their (expected) environmental outcome, than about true novelty. Overall, this stresses again the importance of knowledge that will help identify what these improvements might be.

- > EEA/OECD, 2012. Database on economic instruments for the environment: <http://www2.oecd.org/ecoinst/queries/>
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