Is Integrated Water Management on Track in the European Union?

by Luc Lavrysen

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I. Water Legislation in the European Union

In the 1960s and 1970s, more than one European Union (EU) Member State developed a patchwork of water-related legislation. Most of the time, separate legislation on the protection of surface waters against pollution, the protection of groundwater, or the management of public water courses was introduced.[1] For example, in Belgium after the Water Pollution Protection Act of 1950,[2] which was not successful due to lack of implementation by the local authorities in charge of it, a new Act on the Protection of Surface Water Against Pollution was enacted in 1971.[3] In the same year, an Act on the Protection of Groundwater was promulgated,[4] while an Act on the Management of Non-Navigable Waters had been enacted in 1967.[5] In addition, different pieces of legislation dealt with some aspects of the management of navigable water courses.

On the EU level too, a piecemeal body of water legislation has been developed since the mid-1970s. Environmental quality standards for some categories of surface waters were introduced by Directive 75/440/EEC of 16 June 1975 concerning the quality required of surface water intended for the abstraction of drinking water in the Member States, Directive 76/160/EEC of 8 December 1975 concerning the quality of bathing water, Directive 78/659/EEC of 18 July 1978 on the quality of freshwaters needing protection or improvement in order to support fish life, and Directive 79/923/EEC of 30 October 1979 on the quality required of shellfish waters.[6]

Notable was Directive 76/464/EEC of 4 May 1976 on pollution caused by certain dangerous substances discharged into the aquatic environment, and its "daughter directives" containing environmental quality standards and limit values for the discharge of certain blacklisted substances such as mercury, cadmium, hexachlorocyclohexane, DDT, asbestos, and others. The Directive sought to phase out the pollution of surface waters by blacklisted substances and reduce the pollution from grey-listed substances, based on the use of best available techniques. A somewhat similar Directive to protect groundwater against pollution, Directive 80/68/EEC of 17 December 1979 on the protection of groundwater against pollution caused by certain dangerous substances, was adopted a few years later.

Very important for the collection, treatment, and discharge of urban wastewater has been Directive 91/271/EEC of 21 May 1991 concerning urban wastewater treatment, which has led to huge investments all over the EU in wastewater collection and treatment systems. Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources aims to reduce water pollution caused or induced by nitrates from agricultural sources and to further prevent such pollution.[7]

These policies have been, on the whole, successful. In Belgium, the percentage of households connected to water treatment plants increased from nearly 0% in the early 1970s to around 60% in 2000. Emissions of polluting substances by industry fell between 35% and 97%, depending on the parameter concerned, toward the end of the century. The different quality indexes of surface waters showed

1. Jan C. Bongaerts & R. Andreas Kraemer, International Institute for Environment and Society, IIUG DP 86-5, Water Pollution Control Policies: A Comparison of France, West Germany, and the Netherlands (1986).
2. Wet van 11 maart 1950 op de bescherming van de oppervlaktewateren, *Belgisch Staatsblad* 27 April 1950.
3. Wet van 26 maart 1971 op de bescherming van de oppervlaktewateren tegen verontreiniging, *Belgisch Staatsblad* 1 May 1971; http://www.ejustice.just.fgov.be/eli/wet/1971/03/26/1971B32613/justel.
4. Wet van 26 maart 1971 op de bescherming van het grondwater, *Belgisch Staatsblad* 1 May 1971.
5. Wet van 28 december 1967 betreffende de onbevaarbare waterlopen, *Belgisch Staatsblad* 5 January 1968; http://www.ejustice.just.fgov.be/eli/wet/1967/12/28/1967122850/justel.
6. Olivia O. Green et al., *EU Water Governance: Striking the Right Balance Between Regulatory Flexibility and Enforcement?*, 18 Ecology & Soc'y 10 (2013); Pascale Kromarek, *La Protection des Eaux Douces en Droit Communautaire*, *in* Milieurecht: Recente Ontwikkelingen Deel 1—Droit de l'Environnement: Développements Récents Volume 1, at 17-35 (H. Bocken ed., Story-Scientia 1988).
7. Luc Lavrysen, *De Europese wetgeving op bescherming van de oppervlaktewateren*, Tijdschrift Voor Milieurecht, 1992, at 2-12.

a reduction of the proportion of surface waters that were heavily polluted or of very poor biological quality, while the proportion of waters of good or acceptable quality had noticeably increased. Investment in public wastewater treatment was considerable, especially in the last decade of the 20th century.[8]

River water quality across Europe generally improved in the period from enactment of the first pieces of EU water law until the turn of the century. In northwest Europe, around 90% of the population was at that moment connected to sewer and treatment systems, and between 50% and 80% in the southern Member States, while in the new Member States, the average was less than 60%. Most industries also had their effluent discharges connected to sewerage systems or had their own treatment plant. Many EU Member States were, however, not able to meet all the deadlines of the Urban Waste Water Treatment Directive. Despite the gaps in compliance, the Directive made substantial reductions in point sources of pollution to rivers, sometimes by as much as 90%. Most rivers had improved across Europe, particularly those in once badly polluted urban and industrial areas, where point sources of pollution predominated, and where cleanup investment had been concentrated.

Discharges of a wide range of trace amounts of hazardous substances into the aquatic environment have been in decline, thanks to a range of EU environmental measures, some related to water and some more general in scope. For instance, large quantities of hazardous substances reaching the Baltic Sea had fallen by at least 50% since the late 1980s. More than 50% of environmental investment has related to water pollution control. Direct legislative action to reduce certain widely used pollutants in consumer products has been shown to be highly cost-effective, such as the more than 50% reduction of phosphorus in household detergents.[9]

II. A New Umbrella Approach: Integrated Water Management

Pressure for a fundamental rethink of EU water policy came to a head in mid-1995. The European Commission, which had already been considering the need for a more global approach to water policy, accepted requests from the European Parliament's Committee on the Environment and from the Environment Council of environment ministers to fundamentally review water policies. While the EU actions of the past could duly be considered milestones, European water policy had to address the increasing awareness of citizens and other stakeholders about their water. At the same time, water policy and water management had to address problems in a more coherent way.

A Commission Communication was formally addressed to the Council and the European Parliament, but at the same time invited comment from all interested parties, such as local and regional authorities, water users, and nongovernmental organizations. A score of organizations and individuals responded in writing, most of the comments welcoming the broad outline given by the Commission.[10] The outcome of this consultation process was a widespread consensus that, while considerable progress had been made in tackling individual issues, water policy was fragmented, both in terms of objectives and of means. All parties agreed on the need for a single piece of framework legislation to resolve these problems.

In response, the European Commission presented in 1997 the Proposal for a Water Framework Directive, which resulted three years later in 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, better known as the EU Water Framework Directive, or WFD.[11] The Directive has been amended a few times since.[12]

Article 1 of the WFD reads:

> The purpose of this Directive is to establish a framework for the protection of inland surface waters, transitional waters, coastal waters and groundwater which:

8. MIRA-T 1999—Milieu-en Natuurrapport Vlaanderen: Thema's 313-31 (Veerle Vandeweerd ed., VMM 1999).
9. European Environment Agency, The European Environment: State and Outlook 2005, at 120-28, 328-54 (2005).
10. European Commission, *Introduction to the New EU Water Framework Directive*, http://ec.europa.eu/environment/water/water-framework/info/intro_en.htm (last updated June 8, 2016); Peter Chave, The EU Water Framework Directive: An introduction (2001); Andrea M. Keessen et al., *Transboundary River Basin Management in Europe: Legal Instruments to Comply With European Water Management Obligations in Case of Transboundary Water Pollution and Floods*, 4 Utrecht L. Rev. 35-56 (2008).
11. David Grimeaud, *Reforming EU Water Law: Towards Sustainability ?*, 10 Eur. Envtl. L. Rev. 41-51 (2001); La Directive 2000/60/CE du 23 Octobre 2000 Établissant un Cadre Pour une Politique Communautaire Dans le Domaine de l'Eau—De Richtlijn 2000/60/EG Van 23 Oktober 2000 Tot Vaststelling van een Kader Voor Communautaire Maatregelen Betreffende het Waterbeleid—Directive 2000/60/EC of 23 October 2000 Establishing a Framework for Community Action in the Field of Water Policy (Jean-François Neuray ed., Bruylant 2005); Peter De Smedt & Marleen van Rijswick, *Nature Conservation and Water Management: One Battle?*, *in* The Habitats Directive in Its EU Environmental Law Context: European Nature's Best Hope? 417-33 (Charles-Hubert Born et al. eds., Routledge 2015); Giuseppe Sgorbati & Nicoletta Dotti, *Perspectives and Actions to Improve Water Quality in European Union Member States*, ELNI Rev. 10-16 (2015). Nearly one-half of the Member States have been found by the Court of Justice of the European Union (CJEU) to be in breach of the obligation to transpose and implement the Directive at the latest on December 22, 2003: Case C-648/13, Commission v. Poland (2016); Case C-151/12, Commission v. Spain (2013); Case C-118/05, Commission v. Portugal (2006); Case C-85/05, Commission v. Italy (2006); Case C-67/05, Commission v. Germany (2005); Case C-33/05, Commission v. Belgium (2015); and Case C-32/05, Commission v. Luxembourg (2006).
12. A consolidated version of the Directive is available at http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:02000L0060-20141120&rid=1 (last visited Jan. 11, 2018).

(a) *prevents further deterioration* and *protects and enhances the status of aquatic ecosystems* and, with regard to their water needs, terrestrial ecosystems and wetlands directly depending on the aquatic ecosystems;

(b) promotes *sustainable water use* based on a long-term protection of available water resources;

(c) aims at *enhanced protection and improvement of the aquatic environment*, inter alia, through specific measures for the progressive reduction of discharges, emissions and losses of priority substances and the cessation or phasing-out of discharges, emissions and losses of the priority hazardous substances;

(d) ensures the *progressive reduction of pollution of groundwater* and prevents its further pollution, and

(e) contributes to *mitigating the effects of floods and droughts*

and thereby contributes to:

- the provision of sufficient supply of good quality surface water and groundwater as needed for sustainable, balanced and equitable water use,

- a significant reduction in pollution of groundwater,

- the protection of territorial and marine waters, and

- achieving the objectives of relevant international agreements, including those which aim to prevent and eliminate pollution of the marine environment, by [EU] action to cease or phase out discharges, emissions and losses of priority hazardous substances, with the ultimate aim of achieving concentrations in the marine environment near background values for naturally occurring substances and close to zero for man-made synthetic substances.[13]

III. River Basin Management

The Directive requires EU Member States to develop management by river basin, the natural geographical and hydrological unit, instead of according to administrative or political boundaries. For each river basin district[14]—some of which cross national borders—a "river basin management plan" (RBMP) must be established and updated every six years, and this will provide the context for the coordination requirements of the riparian authorities.[15] By removing jurisdictional barriers, integrated river basin management emphasizes coordination across borders, and if fully implemented, strong horizontal and vertical information flows.[16] The core of the RBMPs consists of "programs of measures" (PoMs).[17]

There are a number of environmental objectives for protection of water quality.[18] A general requirement for ecological protection and a general minimum chemical standard were introduced to cover all surface waters, known as "good ecological status" and "good chemical status," respectively. Good ecological status is defined in Annex V of the WFD in terms of the quality of the biological community, the hydrological characteristics, and the chemical characteristics. Good chemical status is defined in terms of compliance with all the quality standards established for chemical substances at the European level.

Those objectives should have been attained 15 years after the publication of the Directive, namely on December 22, 2015, but extensions of this deadline can be obtained under certain conditions. The Directive also provides a mechanism for renewing these standards and establishing new ones by means of a prioritization mechanism for hazardous chemicals during the second and third six-year cycle. The other uses or objectives for which water is protected apply in specific areas. Therefore, the RBMPs should designate specific protection zones within the river basin that must meet these different objectives.[19]

A. RBMPs

The RBMP is a detailed account of how the objectives set for the river basin (ecological status, quantitative status, chemical status, and protected area objectives) are to be reached within the timescale required.[20] The plan shall include all the results of the analysis to be done: the river basin's characteristics, a review of the impact of human activity on the status of waters in the basin, estimation of the effect of existing legislation, and the remaining "gap"

13. WFD art. 1 (emphasis added).
14. Small river basins may be combined with larger river basins or joined with neighboring small basins to form individual river basin districts where appropriate. Where groundwater does not fully follow a particular river basin, it shall be identified and assigned to the nearest or most appropriate river basin district. Coastal waters shall be identified and assigned to the nearest or most appropriate river basin district or districts (WFD art. 3(1)).
15. Member States shall ensure that the requirements of the Directive for the achievement of the environmental objectives established under Article 4, and in particular all programs of measures, are coordinated for the whole of the river basin district. For international river basin districts, the Member States concerned shall together ensure this coordination and may, for this purpose, use existing structures stemming from international agreements (WFD art. 3(4)).
16. Green et al., *supra* note 6.
17. WFD art. 11.
18. WFD art. 4. The WFD must be interpreted as meaning that the Member States are required—unless an exemption is granted—to refuse authorization for an individual project where it may cause a deterioration of the status of a body of surface water, or where it jeopardizes the attainment of good surface water status or of good ecological potential and good surface water chemical status by the date laid down by the Directive. The concept of "deterioration of the status" of a body of surface water must be interpreted as meaning that there is deterioration as soon as the status of at least one of the quality elements, within the meaning of Annex V to the Directive, falls by one class, even if that fall does not result in a fall in classification of the body of surface water as a whole. However, if the quality element concerned, within the meaning of that annex, is already in the lowest class, any deterioration of that element constitutes a "deterioration of the status" of a body of surface water (CJEU, Case C-461/13, Bund für Umwelt und Naturschutz Deutschland (2015)).
19. WFD arts. 6 and 7.
20. WFD art. 13.

to meeting these objectives and a set of measures designed to fill the gap.[21] The WFD requires information and consultation when RBMPs are established: the RBMP must be issued in draft, and the background documentation on which the decisions are based must be made accessible. Public information and consultation is mandatory.[22] Various Member States have been found in breach of the obligation to publish the final RBMPs of the first cycle at the latest by December 22, 2009, and to send a copy of those plans to the commission by March 22, 2010.[23]

B. Recovery of Costs for Water Services

The need to conserve adequate supplies of a resource for which demand is continuously increasing is also one of the drivers behind what is arguably one of the WFD's most important innovations: the introduction of pricing. The basic idea is that adequate water pricing acts as an incentive for the sustainable use of water resources and thus helps to achieve the environmental objectives under the Directive. Member States are required to ensure that the price charged to water consumers—such as for the abstraction and distribution of freshwater and the collection and treatment of wastewater—reflects the true costs.[24]

C. Complementary Legislation

The WFD has been complemented by Directive 2006/118/EC of the European Parliament and of the Council of 12 December 2006 on the protection of groundwater against pollution and deterioration, Directive 2007/60/EC on the assessment and management of flood risks, and Directive 2008/105/EC of the European Parliament and of the Council of 16 December 2008 on environmental quality standards in the field of water policy.

IV. Transposition of the Water Framework Directive Into Belgian Law

The Member States have transposed the WFD into their domestic legislation, more than once with some delay. That was also the case in Belgium, where this had to be done separately by the three regions. The Flemish Region was on time by enacting its Decree of July 18, 2003, on integrated water management.[25] While it followed the WFD by transposing its wording closely, in particular in relation to the RBMPs, it also contains some additional policy instruments, one of which deserves a word of explanation: the so-called water check or water test contained in Article 8 of the Decree. This determines that authorities who have to decide on a permit, plan, or program that can have harmful effects on a water system ensure, by refusing permission or approval of the plan or program or by imposing appropriate conditions or modifications on the plan or program, that no harmful effect[26] is caused or that it is limited as much as possible. If this is not possible, they must restore the harmful effect or, in the case of the reduction of the infiltration of rainwater or reduction of space for the water system, ensure that it is compensated.

When making this decision, Flemish authorities must take into account the relevant water management plans, and the decision must be justified taking into account the relevant objectives and principles of integrated water management. In case a strategic environmental assessment or environmental impact assessment is required, the water test is integrated into the relevant statement. This water test has proven to be a strong tool to integrate water management-related concerns into project-type and planning-type decisions.

The water test consists of a step-by-step approach. Refusal of a permit or dismissal of a plan (third stage) is only possible when no alternatives can be thought of to prevent, reduce (first stage), repair, or compensate (second stage) the harmful effect.[27] The water test and the resulting "water paragraph" containing the formal justification of the decision in light of the test have been taken very seriously by the administrative courts from the outset. There are abundant cases in which a permit or a plan has been annulled for unlawfully not having been submitted to a

21. WFD art. 11.
22. WFD art. 14.
23. CJEU, Case C-190/14, Commission v. Denmark (2014); Case C-403/11, Commission v. Spain (2012); Case C-366/11, Commission v. Belgium (2012); Case C-297/11, Commission v. Greece (2012); Case C-223/11, Commission v. Portugal (2012). See also in relation to the preparatory steps: CJEU, Case C-43/10, Nomarchiaki Aftodioikisi Aitoloakarnanias & Others (2012); Case C-351/09, Commission v. Malta (2010); Case C-516/07, Commission v. Spain (2009); Case C-264/07, Commission v. Greece (2008); and Case C-85/07, Commission v. Italy (2007).
24. WFD art. 9. The CJEU was of the opinion that the WFD must be interpreted as not precluding national legislation that provides that the price of water services invoiced to the consumer includes not only a variable component calculated according to the volume of water actually consumed by the person concerned, but also a fixed component that is not connected with that volume (CJEU, Case C-686/15, Vodoopskrba i odvodnja (2016)).
25. Integraal Waterbeleid in Vlaanderen en Nederland (Frank Maes & Luc Lavrysen eds., die Keure 2003); Frank Maes, *Integrated Water Policy in Flanders: The Implementation of the EC Framework Directive Water in the Decree on Integral Water Policy*, *in* Directive 2000/60/EG of 23 October 2000 Establishing a Framework for Community Action in the Field of Water Policy 29-54 (Jean-François Neuray ed., Bruylant 2005); Peter De Smedt, *Water-Related Tools for Climate Change Adaptation in the Flemish Region: The Art of Linking Water Quality Standards to Spatial Planning*, 7 J. for Eur. Envtl. & Plan. L. 292-301 (2010); Peter De Smedt, *Legal Instruments in Spatial Planning to Ban Building in Flood Zones: From Water Test to Planological Protection Via "Water Sensitive Open-Air Areas,"* 17 J. for Eur. Envtl. & Plan. L. 346-60 (2017).
26. A harmful effect is defined as
> any significant adverse effect on the environment resulting from a change in the conditions of water systems or parts of it, caused by human activity: such effects include effects on human health and the safety of houses and business premises outside flood areas, that are permitted or considered to be permitted, effects on sustainable use of water for human consumption, on flora, fauna, soil, air, water, climate, landscape and the immovable heritage, as well as the interaction amongst one or more of those.

Translation from Art. 3 (17) of the Decree on July 18, 2003, on integrated water management, http://www.ejustice.just.fgov.be/eli/decreet/2003/07/18/2003201696/justel.
27. Constitutional Court, Judgment No. 32/2005, v.z.w. Vlaams Overleg voor Ruimtelijke Ordening en Huisvesting and de v.z.w. Landelijk Vlaanderen, vereniging van Bos-, Land- en Natuureigenaars (2005).

water test or to a poor test or for lack of proper justification in light of the test.[28]

V. Implementation of EU Water Law

According to the most recent Communication From the European Commission on the Implementation of the EU Water Framework and Flood Directives,[29] the current water policy framework addresses the challenges faced by European freshwaters. However, there is still a long way to go before the quality of all EU waters is good enough, due to decades of previous degradation and persistently ineffective management. In 2012, the Commission's Blueprint to Safeguard Europe's Water Resources[30] found that about one-half of EU surface waters were unlikely to reach a good ecological status in 2015. Moreover, gaps in monitoring the chemical status of surface waters were so significant that in 2012 the status of more than 40% of water bodies was unknown and it was impossible to establish a baseline. The picture seems to be more positive for groundwater, but problems in some basins are still severe.

In the agricultural sector, the last report on the Nitrates Directive[31] points to a slight improvement in groundwater nitrate pollution while stressing the need for further action to reduce and prevent pollution. Despite the fact that 63% of river basin districts reported that implementation of the Nitrates Directive is not enough to tackle diffuse (nonpoint source) pollution to the level required by WFD objectives, necessary measures have not been added to address the remaining shortcomings. Diffuse pollution significantly affects 90% of river basin districts, 50% of surface water bodies, and 33% of groundwater bodies across the EU. The agricultural sector is the primary source of diffuse pollution. In spite of some progress made in reducing mineral fertilizer consumption, there are still many gaps in the basic measures put in place by Member States to address agricultural pressures, including a lack of measures to control phosphate and nitrate emissions outside nitrate-vulnerable zones established under the Nitrates Directive.

As concerns households, implementation of the Urban Waste Water Treatment Directive has been challenging, mainly because of the financial and planning aspects related to major infrastructure investment in sewerage systems and treatment facilities. Implementation is advanced in the EU-15 (the Member States who joined before May 1, 2004), with several Member States close to full compliance. For most of the EU-13 (the New Member States), however, the transitional periods negotiated in the accession treaties are coming to an end and most countries are still far from full compliance, in spite of significant work carried out in the past decade.

Pollution caused by industrial activities can be particularly significant for certain pollutants and water bodies. The Industrial Emissions Directive provides the main ways of tackling this, notably through its requirement for operators of industrial installations to apply the "best available techniques" to ensure a high level of protection of the environment as a whole (i.e., water, air, and land quality). The national authorities ensure that emission limit values in industrial emissions permits are in line with best available techniques and take into account relevant water objectives. Although this does happen to some extent, it is not done systematically, or if it is done, it is not reported. Most Member States have begun work on their inventories of emissions of priority substances, as required by the Environmental Quality Standards Directive, but most of the measures identified by Member States in relation to chemical pollution are too general, with unquantified outcomes, rather than substance- or source-specific.

The abstraction of water beyond the renewing capacity of nature puts major pressure on EU surface and groundwater, especially due to irrigation in Mediterranean and Black Sea countries, but also because of urbanization and other economic activities in different parts of the EU. The first RBMPs showed that most Member States have not addressed the water needs of nature, which they are required to do if the WFD environmental objectives are to be achieved.

Changes to the flow and physical shape (the "hydromorphology") of water bodies are among the main factors preventing the achievement of good water status but, in general, the first PoMs propose insufficient actions to counter this.

It is widely recognized that large parts of Europe will be confronted with an increase in the occurrence and frequency of flood events due to climate change. The first steps in the risk management process established by the Floods Directive were the preparation of preliminary flood risk assessments by the end of 2011 and the identification of areas of potential significant flood risks, which enabled Member States to focus implementation on areas where this risk is significant. Preliminary assessments were largely based on available information about past significant floods and on forecasts of potential significant future floods. Most Member States have developed new preliminary flood risk assessments, while others have relied on existing assessments or on a mix of new and existing ones. Only one-third of Member States explicitly consid-

28. See the cases discussed in Peter De Smedt, *De watertoets anno 2012: over oude gedachten en nieuwe vormen*, *in* Natuur, Water en Ondernemen. Kwelling of Uitdaging? 1-62 (Luc Lavrysen ed., die Keure 2012); Luc Lavrysen, Handboek Milieurecht 688-93 (2016).

29. Communication From the Commission to the European Parliament and the Council: The Water Framework Directive and the Flood Directive: Actions Towards the "Good Status" of EU Water and to Reduce Flood Risks, COM (15)120 final [hereinafter The Water Framework Directive and the Flood Directive].

30. 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(12)673 final, http://eur-lex.europa.eu/legal-content/EN/ALL/;ELX_SESSIONID=66YWJLpGQGScLrQpQ7XWwTMG6M1JYMkvtvGvnMgr9lQP3bZnN8QT%21263987438?uri=CELEX:52012DC0673.

31. Report From the Commission to the Council and the European Parliament on the Implementation of Council Directive 91/676/EEC Concerning the Protection of Waters Against Pollution Caused by Nitrates From Agricultural Sources Based on Member State Reports for the Period 2008-2011, COM (13)683 final.

ered long-term developments (climate and socioeconomic changes) in their assessment of flood risk.

VI. Conclusion

Although major progress has been made in water management compared with the sometimes dramatic situation in the 1960s and 1970s, much has still to be done to achieve the ambitious objectives of EU water law, in particular those of the WFD and the Floods Directive.[32] Climate change is adding an extra challenge. Additional measures should be taken, and continuous investment in upgrading and maintaining water treatment systems, together with an environmentally friendly management of water systems, will be on the agenda for many years. The judiciary can help to bring closer the realization of those objectives by enforcing the rules that have been enacted on the EU and at domestic levels.

32. See the conclusions and recommendations contained in the Water Framework Directive and the Flood Directive, *supra* note 25, at 10-14.