

Introduction and framework of the German and European Water Law

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A. Introduction

Life in general is impossible without a sufficient supply of clean water. For example, water bodies provide drinking water for people, and process water for manufacturing goods. They are habitats for many plant and animal species and contribute to preserving biological diversity. It is therefore necessary to reconcile protection and use of water bodies as far as possible. This requires the involvement of both private and commercial water users, for example in ensuring drinking and process water supplies, securing sound waste water management and preserving, or restoring if necessary, the ecological balance of water bodies.

Focussing on Germany it can be noticed that there exists an efficient water management sector. German water technologies and know-how are highly regarded throughout the world. The German government ensures effective water protection that involves all stakeholders:

- Waste Water charges create an economic incentive to reduce, as far as possible, the amount of waste water discharged.
- A range of laws and regulations ensure protection of water from inputs of harmful substances and the conservation of water bodies as habitats.
- Criminal and liability law penalises the pollution of water bodies and ensure that environmental damage is compensated.

Besides, to an increasing extent, issues relating to environmental protection and hence also to water resources management are being decided by the European Union (EU). In this regard, the cooperation between the Member States of the European Union in the field of water protection is extremely important, because of various aspects. First and foremost water protection is by definition a transboundary challenge. Hence differences in environmental standards complicate the enforcement of a single European market. Moreover the knowledge for developing water scarcity especially in southern Member States such as Portugal and Spain causes the necessity of an efficient interconnectedness of the Member States as far as water resource management is concerned.

As a Member State of the EU, Germany is both involved in drafting EC legislation (especially Directives and Regulations) and bound by such legislation. Generally speaking, it is the responsibility of the Member States to actually enforce EC legislation in practice, as the institutions of the EU do not possess any enforcement powers of their own.

EC Directives do not become valid law until they have been transposed into national law. In so-called “*breach of treaty*” cases, which can ultimately lead to the imposition of fines by the European Court of Justice, the EU Commission can compel Member States to implement EC legislation. As EU regulations are often not comprehensive, Member States are at liberty to adopt their own regulations to this extent. Furthermore, the Member States are generally at liberty to enforce more stringent requirements at national level.

Focussing in detail on the European Level the main legal resource the *Water Framework Directive 2000/60/EC* of the European Parliament and of the Council of 23 October 2000, that entered into force on 22 December 2000, recites that “water is not a commercial product like any other, but, rather, a heritage which must be protected, defended and treated as such.” That

statement reveals the importance of a development concerning an integrated Community policy on water.

The *European Water Framework Directive* paved the way for a coherent water protection policy in Europe, which will also bring about coordinated management of waters within river basins beyond country and German States borders. Finally the *Directive 2000/60/EC* should contribute to a harmonisation of water protection within the growing Community and to a reduction in water pollution.

In detail, the European *Water Framework Directive* provides for several goals to be achieved by 2015. These are:

- preventing any further deterioration of the status of waters,
- achieving a good ecological and chemical status for all water bodies (rivers, lakes, transitional waters, coastal waters and groundwater),
- achieving a good quantitative status for groundwater and
- progressively reducing pollution from a range of substances that are classified in the *Water Framework Directive* as presenting significant risks, referred to as priority substances. These include pesticides, heavy metals and other organic pollutants.

Naturally, the responsibility for water bodies does not stop at national or European borders. For this reason, transboundary cooperation for the protection of inland water bodies and the seas is a focus of the German government's water protection policy, too. Therefore, Germany is a member of the respective international commission for the protection of the rivers Oder, Elbe, Rhine Maas and Danube and the marine protection commission for the Baltic Sea and for the North-East Atlantic. Moreover, in a number of United Nations bodies, the German government is working with other countries to develop solutions to global water management problems. Concerning this matter, initiatives like the *Petersberg Process* (which concerns Africa as well as South-East Europe¹) and the *Berlin Water Process* (which refers to Central Asia²) were launched to support transboundary cooperation in the management of water bodies in various regions of the world.

¹ The *Petersberg Process* is a series of informal high-level dialogue fora on transboundary water management attended by decision makers, scientists and representatives of international donors, civil society and international organisations, launched as a joint effort by the German Government (German Federal Ministry for Economic Cooperation and Development - BMZ, German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety - BMU and the German Foreign Office - AA) and the World Bank. This exchange on policies between the various user groups of transboundary water bodies aims to support sustainable uses of transboundary water bodies. The Round Tables of the *Petersberg Process* provide an opportunity for an informal dialogue on policies and international exchange of experience at a high political level with the aim to raise awareness with regard to the increasing competition for ever scarcer water resources, to develop strategies for an institutionalised joint use of transboundary water resources and to promote the understanding of water as a catalyst for cooperation and mutual understanding; www.bmu.de.

² The water issues are regional in nature and therefore cooperation at the regional level is critical if efficient progress and solutions are to be found. With this in mind, a special international conference, "Water Unites – Strengthening Regional Cooperation on Water Management in Central Asia" (Almaty, Kazakhstan, 17–18 November 2008), was organized by the Government of Germany, the United Nations Economic Commission for Europe (UNECE), the Executive Committee for the International Fund for Saving the Aral Sea (EC-IFAS) and the United Nations Development Programme (UNDP). The event – hosted by the Kazakh Executive Board of IFAS and the Government of Kazakhstan – was a follow-up to the first Water Unites conference (Berlin, 1 April 2008), which saw the launch of the *Berlin Water Process* by German Foreign Minister Frank-Walter Steinmeier. The Process is an important part of the water and environment pillar of the European Union's Central Asia Strategy, which is coordinated by Italy and was officially launched on 3 December 2008 in Ashgabat. The conference importantly made a much needed step towards developing a comprehensive regional programme to address the water and energy crisis in Central Asia. The discussions offered a solid foundation for further constructive cooperation

between the countries of the region, the various United Nations organizations and other members of the international development community.

B. Statutory Mechanisms

I. European legislation

1. Background

Environmental policy is one of the most important and far-reaching areas of EU legislation. For this reason, the EU is the leading authority in this area with up to 80% of member state legislation on environmental affairs estimated to come from the EU. However, critics of EU environmental policy question the efficiency of some measures, arguing that the cost of complying with these regulations leaves European business uncompetitive, especially in the face of increased competition from countries such as China and India, which do not have such strict environmental rules.

Nevertheless, in the early days of building Europe, environmental issues were not a top priority for the public authorities and economic circles. Thus, Environmental policy was originally not even mentioned in the *Treaty of Rome (1958)*.

Rather it was not until the 1970s that the emergence of environmental concerns triggered moves in this area at Community level. Hence, at the *July 1972 Paris Summit* the Heads of State and Government recognized that in the context of economic expansion and improving the quality of life particular attention should be paid to the environment.

Consequently, the signal was given and the first action programme setting out the framework for Community environment policy was adopted, covering the period from 1973 to 1976. This was followed by other multiannual programmes of the same type which led to the adoption of a series of directives on protection of natural resources (air and water), noise abatement, nature conservation and waste management.

However, the entry into force of the *Single European Act in 1987*, adding a title specifically on the subject to the Treaty establishing the European Community, is generally acknowledged as the turning-point for the environment. From then on, the Community measures had a legal basis explicitly defining the objectives and guiding principles for action by the European Community relating to the environment. And provision was made for environmental protection requirements to become a component of the Community's other policies.

The entry into force of the *EU Treaty in November 1993* brought further progress on several fronts. First it added the concept of "sustainable growth respecting the environment" to the European Community's tasks and wrote the precautionary principle into the article on which environment policy is founded (Article 174, ex Article 130r, of the EC Treaty). Beyond that, it upgraded action on the environmental to the status of a "policy" in its own right and made qualified majority voting in the Council the general rule. The only exceptions are matters such as environmental taxes, town and country planning and land use, where unanimity remains the norm. As for the codecision procedure, this was confined to issues concerning the internal market. Summarized, the *Single European Act (1987)* marked the beginning of a more prominent role for environmental protection in EU policy-making, introducing the principal that environmental protection should be considered in all new Community Legislation. EU environmental policy was substantially expanded by the *Treaties of Maastricht (1992)* and *Amsterdam (1997)*, which made sustainable development one of the EU's central objectives.

In the final analysis, in the course of building Europe provisions commensurate with the high stakes represented by the environment have gradually been evolved. Nevertheless, this progress, step by step, also created certain inconsistencies, such as the conflicting legal bases or the different decision-making procedures. The *Treaty of Amsterdam in 1997* should resolve these problems and respond to the need to make Community environment policy clearer and more efficient. De facto this request only succeeded to some extent, which evoked the consequence that large-scale changes in the whole ecological mindset as well as legal framework had to take place in the aftermath. In other words, sustainable development and taking the environment into account in all policies had to be the main aim. Therefore, the *EU Treaty 1997* laid down that "environmental protection requirements must be integrated into the definition and implementation of other Community policies", which is a sine qua non for sustainable growth respecting the environment tried to adhered to by the Treaty of Amsterdam.

Thus, Environmental policy is a relatively recent EU policy area. Sustainable development of that domain also forms a key part of the *Europe 2020 strategy*, which underpins all EU policy regarding the single market. *The Lisbon Treaty (2007)* reiterated the objective of sustainable development and, in 2010, the EU renewed a number of environmental Directives to ensure they comply with the *Lisbon Treaty*.

2. Prevention of water pollution as (special) part of the European Environmental Law

Due to the transnational character of environmental protection, the EU is increasingly active in the field of the prevention of water pollution. The protection and management of waters is especially noteworthy in this respect. This is why guidelines set out in European law have a great influence on national water law and the water management of Member States and from there of German Legislation, too. Thus, large parts of German water law are influenced by or implement European provisions, cp. the German Federal Water Act or the German Wastewater Charges Act. However the critical fact that implementation of European Directives by the several Member States – whereat Germany could not be excluded in a positive manner- requires a long run in most cases, which definitively has to be ascribed to the lethargy of the Member States pertained.

3. Relevant European Legal Framework in detail screen

a. EC Water Framework Directive (WFD)³

The *Water Framework Directive (Directive 2000/60/EC)* entered into force on 22 December 2000⁴. It marked the beginning of a new dimension in European water conservation policy. In future, waterbodies are to be managed across national and regional borders, by means of a coordinated approach within the river basin areas.

The central objective of the WFD is to achieve a "good status" of all waterbodies (watercourses, lakes, coastal waters, and groundwater) in the Community. The basic thinking behind "good status" is that surface waters may be impaired or changed by human use, but only insofar as the ecological functions of the waterbody with its typical biotic communities are not significantly impaired. The requirements for good ecological water quality are defined in detail for the various surface water types. Additionally, EU-wide chemical environmental

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, OJ L 327, p. 1 ff.

⁴ Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit (Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, BMU): "Die Wasserrahmenrichtlinie – Neues Fundament für den Gewässerschutz in Europa", synopsis, Bonifatius, Paderborn, September 2004 and BMU: "Die Wasserrahmenrichtlinie – Neues Fundament für den Gewässerschutz in Europa", full-length version, Bonifatius, Paderborn, September 2004.

quality standards are defined for 33 priority substances⁵. Other key points of the Directive include the combined approach of emission and measures related to immission to reduce pollutants, and the obligation to prepare programmes of measures and management plans, both linked to the participation of the wider public.

For groundwater, the aim is to maintain or achieve a good quantitative status and a good chemical status. The requirements governing the good status of groundwater have since been specified in a separate Groundwater Directive⁶.

The material provisions of the WFD are embedded in a comprehensive concept of river basin planning that is based on the natural classification of river catchment areas and which therefore extends beyond the boundaries of the German federal states and the Member States. In order to implement these planning requirements, there is a need to develop greater cooperation between the administrative bodies and different countries. The programmes of measures and management plans for the individual river basins had to be complete by the end of 2009. Under the ambitious timetable formulated by the Directive, the objective of a good status is to be achieved by the end of 2015. Generally speaking, the Parties may receive exemption from the objective of good status in 2015 by obtaining an extension to the deadlines or by setting less stringent objectives, but only provided they meet certain restrictive requirements. Water resources management in Germany therefore faces a major challenge over the next few years.

As mentioned before, the Directive's main objective is to achieve a good quality of all waters within the European Union until 2015. Hence, its focal points are the protection of waters, the prevention of their deterioration, the advancement of sustainable water use, the protection and enhancement of the status of aquatic ecosystems and wetlands directly depending on the aquatic ecosystems, and the mitigation of the effects of flood and droughts.⁷ That is why the Directive determines environmental objectives for all European surface waters and the groundwater.⁸ It specifies the requirements for a good ecological quality of waters in detail for the different types of surface waters.

Another central element of the Directive is the obligation of the EU Member States to conduct an extensive analysis of the river basins and to draw up, with involvement of the public, river basin management plans and programmes of measures in order to achieve these obligations until 2015.⁹

By means of the *Directive 2000/60/EC* the European Union (EU) has established a Community framework for water protection and management.

Moreover, this Framework Directive has a number of objectives, such as preventing and reducing pollution, promoting sustainable water usage, environmental protection, improving aquatic ecosystems and mitigating the effects of floods and droughts. Again, thereby its ultimate objective is to achieve "good ecological and chemical status" for all Community waters by 2015.

⁵ Directive of the European Parliament and of the Council of 16 December 2008 on environmental quality standards in the field of water policy, amending and subsequently repealing Council Directives 82/176/EEC, 83/513/EEC, 84/156/EEC, 84/491/EEC, 86/280/EEC and amending *Directive 2000/60/EC* of the European and of the Council, OJ No. L 348, p. 84 ff.

⁶ 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; OJ EC L 372, p. 29 ff.

⁷ Article 1 *Water Framework Directive* .

⁸ Article 4 *Water Framework Directive* .

⁹ Cf. articles 5 et seq. *Water Framework Directive* .

Concerning the administrative arrangements of the *Water Framework Directive* it is remarkable that all Member States have to identify all the river basins lying within their national territory at first, and to assign them to individual river basin districts accordingly. River basins covering the territory of more than one Member State will be assigned to an international river basin district.

Moreover, Member States are to designate a competent authority for the application of the rules provided for in this Framework Directive within each river basin district.

Besides, there has to take place an identification and analysis of waters. For that reason, by 2004 at the latest, each Member State should have produced an analysis of the characteristics of each river basin district, a review of the impact of human activity on water; an economic analysis of water use, a register of areas requiring special protection, as well as a survey of all bodies of water used for abstracting water for human consumption and producing more than 10 m³ per day or serving more than 50 persons.

This analysis must be revised in 2013 and every six years thereafter.

Within the realization of the Directive, the main instrument in the course of action is on management plans and programmes of measures. Although that type of dealing with the problem of global ecological protection is not generally unproblematic as far as the policy of implementation of Directives by the Member states is in focus, it seems as if in case of the Framework Directive it has even been partly successful.

In 2009, nine years after the Framework Directive entered into force, management plans were produced for each river basin district, taking account of the results of the analyses and studies carried out. These plans cover the period 2009-2015. They shall be revised in 2015 and then every six years thereafter. In other words, the management plans are the “core panel” of the environmental protection construct aspired by the *Water Framework Directive*. Their implementation should have finally taken place in 2012.

They aim to:

- **prevent deterioration, enhance and restore bodies of surface water, achieve good chemical and ecological status of such water by 2015 at the latest and to reduce pollution from discharges and emissions of hazardous substances;**
- **protect, enhance and restore the status of all bodies of groundwater, prevent the pollution and deterioration of groundwater, and ensure a balance between groundwater abstraction and replenishment;**
- **preserve protected areas.**

The management plans for river basin districts can be complemented by more detailed management programmes and plans for a sub-basin, a sector or a particular type of water. A list of priority substances selected from among the ones which present a significant risk to the aquatic environment has already been drawn up at European level. This list is set out in Annex X to this Framework Directive and can be seen as compendium for the Member States.

In this regard it is necessary to mention, that temporary deterioration of bodies of water is not in breach of the requirements of this Framework Directive if it is the result of circumstances which are exceptional or could not reasonably have been foreseen and which are due to an accident, natural causes or *vis maior*.

Member States shall also encourage participation by all stakeholders in the implementation of this Framework Directive, specifically with regard to the management plans for river basin districts. Projects from the management plans must be submitted to public consultation for at least 6 months.

A particular target of the *Water Framework Directive* can be found in its Art. 9, which determines that from 2010, Member States had to ensure that water pricing policies provide adequate incentives for users to use water resources efficiently and that the various economic sectors contribute to the recovery of the costs of water services, including those relating to the environment and resources, c.p. Art. 9 para. 1 subpara. 3 WFD. That article – unimposing as it seems at first sight – generated a vivid discussion among experts of the matter mentioned. By way of example in Germany

In Germany the term water services in general includes public water supply, municipal waste water disposal, industrial-commercial water supply (own production), agricultural water supply (irrigation), industrial-commercial waste water disposal, direct discharger and the operation of impoundments for all purposes (e.g. shipping). Thereby environmental costs of water services can be defined as “ [...] costs of damage that water uses impose on the environmental and ecosystems and those who use the environment e.g. a reduction in the ecological quality of aquatic ecosystems or the salinisation and degradation of productive soils”.¹⁰ Hence, in Germany, first instruments for internalisation of environmental and resources costs are available due to the wastewater levy, the water abstraction levy, as well as the compensation levy for nature protection.

Focussing in that context in detail on the water abstraction levy it is remarkable that in the light of Art. 9 WFD and its commitments, an abolishment of that levy is not manageable without further ado. At the same time they are a source related instrument of financing the management programs of the WFD. The undefined as well as undiminished continuance of the water abstraction levy complies with these exigencies. At the same time the amendment of 2011 has to be considered as signal element of a dogmatic revision concerning the exceptions as well as reductions that existed so far without any discernible signifier towards the order standardized in Art. 9 WFD. Even if the imposition of scarcity prices is determined as burden, de facto they abandon a situation in which scarce environmental commodities¹¹ – in opposition to market economical logic concerning the handling of scant commodities - are utilized cost-free.

Rather, in Art. 9 WFD the European Legislation finally clarified in core principle that there should be merchandise planning concerning water resources by means of an entire economical responsibility of costs.

Privilege of certain particular kinds of water use, concerning for example mining or nuclear energy, should forcefully be quantified related to the assignment as well as to the object of the levy. Moreover the principle of proportionality has to be taken into consideration. The doctrine of preference¹², as developed by the German Federal Constitutional Court (*BVerfG*) in 1995 does not demand such privileges anyway.

Furthermore, the Member States have to introduce arrangements to ensure that effective, proportionate and dissuasive penalties are imposed in the event of breaches of the provisions of this Framework Directive.

¹⁰ According to the LAWA guidelines.

¹¹ In acceptance of the fact, that water is a heritage and not a good commercial product like any other.

¹² Beschluss des 2. Senats vom 7.11.1995, - 2 BvR 413/88 und 1300/93 -, BVerfGE 93, 319.

Key terms used in the *Water Framework Directive*

Inland waters: all standing or flowing water on the surface of the land, and all groundwater on the landward side of the baseline from which the breadth of territorial waters is measured.

Surface water: inland waters, except groundwater, transitional waters and coastal waters, except in respect of chemical status, for which territorial waters are also included.

Groundwater: all water which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

Transitional waters: bodies of surface water in the vicinity of river mouths which are partly saline in character as a result of their proximity to coastal waters but which are substantially influenced by freshwater flows.

Coastal water: surface water on the landward side of a line every point of which is at a distance of one nautical mile on the seaward side from the nearest point of the baseline from which the breadth of territorial waters is measured, extending where appropriate up to the outer limit of transitional waters.

River basin: the area of land from which all surface run-off flows through a sequence of streams, rivers and, possibly, lakes into the sea at a single river mouth, estuary or delta.

River basin district: the area of land and sea, made up of one or more neighbouring river basins together with their associated groundwaters and coastal waters, which is identified under Article 3(1) as the main unit for management of river basins.

b. Further EC Directives on water conservation

The beginnings of an active European environmental policy date back to 1973. Since then, a number of individual directives on water conservation have been adopted. The WFD combines these approaches into a coherent overall concept and repeals a number of these Directives. However, other water conservation directives remain valid in their own right even after the adoption of the WFD and remain in force, in some cases for a limited period. The most important of these EC legal acts that remain in force are (in chronological enumeration):

aa. The Urban Wastewater Directive 91/271/EEC¹³

The Directive concerning urban wastewater treatment obligates Member States to collect and purify wastewater from households and small businesses, and aims to reduce organic pollution as well as nitrate and phosphorous discharges from these sources.

bb. The Nitrate Directive 91/676/EEC¹⁴

The Directive concerning the protection of waters against pollution caused by nitrates from agricultural sources serves to reduce nitrate inputs from livestock farming (fertilising).

cc. Drinking Water Directive 98/83/EC¹⁵

The Directive on the quality of water intended for human consumption lays down special quality requirements for water for human consumption. The Drinking Water Directive has at

¹³ Council Directive of 21 May 1991, OJ L 135, p. 40 ff., most recently amended by Commission Directive 98/15/EC of 27 February 1998 in conjunction with a number of requirements laid down in Annex I, OJ L 67, page 29.

¹⁴ Council Directive of 12 December 1991, OJ L 375, p. 1 ff.

¹⁵ Council Directive of 3 November 1998 on the quality of water intended for human consumption, OJ L 330, page 32 ff.

least an indirect effect on water protection, since the main concern of drinking water suppliers (water utilities) is to be able to use untreated water that is as natural as possible; strict limit values, e.g. for the content of pesticides and nitrate in drinking water, therefore represent important incentives to water conservation. An amendment to the Drinking Water Directive is currently in progress.

dd. The Protection of Waters Directive on dangerous substances discharged into waters 2006/11/EC¹⁶

The Protection of Waters Directive on dangerous substances discharged into waters (2006/11/EC), which also obligates Member States to define quality objectives for certain dangerous substances and to draw up programmes for compliance with these objectives; in a number of follow-on directives, emission regulations will be adopted for selected substances in two lists. The Directive will continue to apply until 2013.

ee. The Bathing Water Directive 2006/7/EC¹⁷

The Bathing Water Directive lays down provisions for the monitoring, assessment and management of bathing water quality and the provision of information on its quality.

ff. The new Groundwater Directive 2006/118/EC¹⁸

The new Groundwater Directive is intended to prevent and alleviate pollution of the groundwater. It concretises the provisions of the WFD on the chemical and quantitative status of groundwater.

gg. The Marine Strategy Framework Directive 2008/56/EC¹⁹

The Marine Strategy Framework Directive obligates the Member States to develop strategies to protect the marine environment. The aim of this Directive is to define a good environmental status, specify environmental objectives, and formulate monitoring programmes and packages of measures.

hh. Directive 2008/105/EC on environmental quality standards in the field of water policy²⁰

Directive 2008/105/EC specifies environmental quality standards with EU-wide validity, which are intended to limit the occurrence of certain chemical substances which pose a significant risk to the environment in the surface waters of the EU. This is a daughter directive of the WFD on ascertaining the chemical status of surface waters.

¹⁶ Directive of the European Parliament and of the Council of 4 March 2006 on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community, OJ L 64, p. 52 ff (formerly Directive 76/464/EEC).

¹⁷ Directive 2006/7/EC of the European Parliament and of the Council of 15 February 2006 concerning the management of bathing water quality, OJ L 64, p. 37 ff.

¹⁸ Council 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, OJ L20, p. 43 ff.

¹⁹ Directive 2008/56/EC of the European Parliament and of the Council of 17 June 2008 establishing a framework for community action in the field of marine environmental policy (Marine Strategy Framework Directive).

²⁰ 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, amending and subsequently repealing Council Directives 82/176/EEC, 83/513/EEC, 84/156/EEC, 84/491/EEC, 86/280/EEC and amending *Directive 2000/60/EC* of the European Parliament and of the Council.

In addition to the water protection directives described above, there are various other measures under EC environmental law that are not specifically aimed at protecting the environmental medium “water”, but are nevertheless significant in this connection. Examples include:

- **The Flood Risk Management Directive (2007/60/EC)**²¹
The Flood Risk Management Directive is aimed at the assessment and management of flood risks in order to minimize the flood-related consequences for man and the environment.
- **The new IE Directive (2010/75/EU) on integrated pollution prevention and control**²² (former IPPC 2008/1/EC)
The new IE Directive on integrated pollution prevention and control sets out cross-media requirements for selected industrial sectors. The IE Directive contains the IPPC and six other important Directives. It also increases the significance of BAT (best available techniques) in the European Union. The effects on air and water and in the waste sector are weighed against each other and considered in an integral way when licensing the plant.
- **The Habitats (FFH) Directive (92/43/EC)**²³
The Habitats (FFH) Directive is designed to permanently protect and preserve biological diversity in the territory of the European Union by means of a system of protected areas designated on the basis of uniform criteria.
- **The Birds Directive (79/409/EEC)**²⁴
The Birds Directive entered into force in 1979. It calls for the establishment of protected areas as a key measure for the preservation, restoration or creation of habitats for wild bird species.
- **The Regulation concerning the placing of plant protection products on the market (1107/2009)**²⁵ and the **Directive (2009/128/EC)**²⁶ on the sustainable use of pesticides.
- **The Biocide Directive (98/8/EC)**²⁷
The Biocide Directive concerns the marketing of biocide products.
- **The EIA Directive of 1985 (85/337/EEC)**²⁸

²¹ Directive of the European Parliament and of the Council of 23 October 2007 on the assessment and management of flood risks, OJ L 288, page 24 ff.

²² Directive of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control) (Recast), OJ L 334, page 17 ff.

²³ Council Directive of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora, OJ L 206, page 7.

²⁴ Council Directive of 1 April 1979 on the conservation of wild bird species, OJ EC L 103 page 1.

²⁵ 25 Regulation (EC) No. 1107/2009 of the European Parliament and of the Council of 21 October 2009 concerning the placing of plant protection products on the market and repealing Council Directives 79/117/EEC and 91/414/EE, OJ EC L 309, p. 1 ff.

²⁶ Directive 2009/128/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for Community action to achieve the sustainable use of pesticides, OJ L 309, p. 71 ff.

²⁷ Council Directive of 16 February 1998 on the placing of biocidal products on the market, OJ EC L 123, p. 1 ff.

²⁸ Council Directive of 27 June 1985 on the assessment of the effects of certain public and private projects on the environment, OJ L 175, page 4 ff., amended by Directive 97/11/EC of 3 March 1997, OJ L 73, page 5 ff., most recently amended by Directive 2003/35/EC of 26 May 2003, OJ L 156, page 17 ff.

The EIA Directive of 1985 provides the basis for environmental impact assessment (EIA) under European Community law. It prescribes the individual process stages of EIA and the project types for which an EIA must be carried out.

- **Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment (2001/42/EC) (SEA Directive)**²⁹

Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment supplements the environmental impact assessment which has existed in Germany since the early 1990s. Whereas EIA only comes into play with the licensing of environmentally relevant projects, the strategic environmental assessment (SEA) applies at planning level, since important environmentally-relevant foundations are often laid within the context of upstream plans and programmes. For example, plans may determine the location, technical properties or selected operating conditions of projects. The SEA ensures that plans which determine the specifications for subsequent licensing conditions are made in an environmentally-compatible and transparent manner, with the involvement of the general public. This benefits planning quality, helps to avoid planning mistakes, and reinforces the acceptance of planning decisions.

- In the field of facilities for handling substances dangerous to water, an important role is also played by the **EC Directive on the control of major-accident hazards involving dangerous substances (96/82/EEC)**³⁰, the **Construction Products Directive (89/106/EEC)**³¹ and the **standardisation procedure under CEN (Comité Européen de Normalisation).**

²⁹ Directive of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment, OJ L 197, page 30 ff.

³⁰ Council Directive of 9 December 1996 on the control of major-accident hazards involving dangerous substances, OJ L 10, page 13 ff., amended by Directive 2003/105/EC of 16 December 2003, OJ 345, page 97 ff.

³¹ Council Directive of 22 December 1988 on the approximation of laws, regulations and administrative provisions of the Member States relating to construction products, OJ L 40, page 12 ff., amended by Directive 93/68/EEC of 22 July 1993, OJ L 220, page 1 ff.

II. The implementation of the *Water Framework Directive* (WFD) into the national legislative system

As mentioned before, the aim of the European *Water Framework Directive* is to protect good water quality in all European water bodies by managing water bodies, i.e. lakes, rivers, groundwater bodies, transitional waters and coastal waters. Water body management poses a major challenge in densely populated countries such as Germany. Stewardship of water resources is a paramount importance throughout Europe and for all EU environmental policies now and in the future.

Official implementation of the *Water Framework Directive* on 22 December 2000 marked the beginning of a new era in the annals of water management. The Directive promulgates a unified water body protection framework. Unified in this context means that European water bodies have been consolidated into large river basins that are managed collaboratively by the state and national government concerned. This mechanism is clearly evidenced by the large Elbe and Rhine river basin districts, the latter of which is managed jointly by nine nations and eight German states. Successful management of such river basin districts necessitates efficient collaboration in a spirit of partnership between all stakeholders concerned. Hence the *Water Framework Directive* harmonizes water protection regulations within the steadily growing European Community.

The *Water Framework Directive* stipulates that “good status” is to be achieved for all European water bodies in 2015, i.e. a high water quality and adequate habitats for native flora and fauna. Although the Directive unequivocally emphasized ecological quality and biodiversity improvement and maintenance for water bodies, it places no restrictions on core water body functions such as supplying drinking water, shipping and flood protection. Both ecological matters and water use will form the basis for river basin management planning in the coming years.

1. Water Protection in Germany – objectives, situation

The central policy objectives of water protection policy in Germany can be summarized as follows. At first, there is a focus on the conservation or restoration of the ecological balance of waters. Beneath a good quality as well as a sufficient supply of drinking water and industrial water should be guaranteed. Finally, safeguarding all other water uses that serve public interest – e.g. recreation and free-time, navigation as well as energy use - completes the main goal agenda of German water policy.

Due to the favourable climatic conditions in Germany, there are generally no problems with regard to an adequate water supply for the population. Nevertheless, the rational use of water is important, as water shortages can occur in some regions in summer. Furthermore, as little wastewater as possible should be produced.

The primary focus of water policy is therefore progressing the improvement of water quality in Germany, although it can already be emphasized, that the actual quality of drinking water

in Germany, referring to statistical evaluations of the Federal Statistical Office³², is of an extraordinarily high level.³³

The German Water policy comprises an integrative as well as uniform approach that is predicated on the principle that ecological and economical concerns are not mutually exclusive. Therefore Germany tries to establish explicit regulations for the implementation of environmental objectives.

A good thirty years ago, water pollution in Germany gave great cause for concern, as during the post-war reconstruction years in the Federal Republic of Germany, water protection did not keep pace with the expansion of industrial activities. The Federation and the German states have therefore introduced a variety of measures aimed at a long-term improvement in water quality as quickly as possible. A priority here is to prompt those responsibilities for polluting waters to take far-reaching water protection measures. Due to that development, especially usages of the different types of water protected by the Federal Water Management Act, that cause a pollution with substances harmful to water, require a state permission. To protect those bodies of water from contamination, Sect. 57 para. 1 of the Federal Water Management Act does not allow wastewater to be discharged unless the pollutant load in the wastewater is kept as low as possible using the best available techniques. The detailed specifications are included in the Wastewater Ordinance (AbwV). The new regulations came into force on 1 January 2005 with the revised Wastewater Ordinance, the latest amended version is dated 2009.

The construction of over 100000 biological sewage treatment plants in the municipalities and intensive wastewater treatment and supplementary on-site measures at industrial sites have brought about a considerable reduction in the input of pollutants into waters. In 2010, a total of 10.07 billion m³ of wastewater was treated in public wastewater treatment plants – approx. 0,1 % only mechanically, 2,3 % biologically without target nutrient removal and approx. 97.6 % biologically with target nutrient removal.

The main focus of current water protection policy is to prevent the pollution of groundwater and surface water with hazardous substances, e.g. with poisonous not readily degradable substances, and with several heavy metals. Nutrients pose a further problem, particularly in the North and Baltic Seas. Nitrogen and phosphorous from agriculture, industry, commerce and private households lead the excessive algae growth resulting in a lack of oxygen and dying fish.

In future the German Wastewater management is to take into account of cross- media aspects. In other words, it will undertake a context-based assessment of the interfaces with waste, air and soil. With the transposition of the IPPC Directive 2010/75/EC (Industrial Emissions Directive) into national law³⁴, the best available techniques are laid down as the basis for the integral approach in all environmental legislation. In future the requirements of the Wastewater Ordinance for wastewater discharge are therefore to be keyed more closely to the best available techniques across environmental media. For wastewater this means the entire wastewater management chain (substances inputs, avoidance measures, sewage system, sewage works) and the interfaces with other media.

³² Statistisches Bundesamt Deutschland, Statistisches Jahrbuch 2010 (Stand: 30.9.2010), Fachserie 19, Reihe 19.1.

³³ Cp. EUWID 17/2011.

³⁴ Deadline for the implementation is 7 January 2013.

2. Extent of the legislative implementation regulated by the European Community

A core aspect of current national water management is the practical implementation of the European *Water Framework Directive* in the ten river basin districts that are fully or partly located on German territory. The German government closely cooperates with the federal states in order to encourage them to apply comparable standards in the enforcement of European and national legislation. Further focal areas of water policy include flood prevention and groundwater protection. With the new Federal Water Act (WHG), which entered into force on 1 March 2010, the German government has laid the foundations for consistent nationwide implementation of water law. At the same time there are now uniform provisions at national level regarding the management of surface waters, coastal waters and the groundwater.

3. Principal legal sources of German water law and the reform of the Federal Water Management Act in 2010 as basic body of laws

a. Overview

It was only with the re-organization of legislative competences in the course of the 2006 federalism reform which abolished framework legislation and transferred its matters to article 74 of the Basic Law (GG) that the federal government obtained the possibility for comprehensive management of water resources (cf. article 74 No. 32 Basic Law (GG)).³⁵ However, the German federal states can set out proper regulations that differ from the federal provisions if the variant rules do not pertain to materials or facilities associated to water management (article 72 (3) No. 5 Basic Law (GG)).

aa. Federal Legislation

(1) Federal Water Act (WHG)

The new Act on the Regulation of Matters Relating to Water (Federal Water Act – WHG³⁶), which entered into force on 1 March 2010, recodifies Germany's water legislation on the basis of the extended legislative powers granted to Federal Government under the Federalism Reform. The previously valid framework law of Federal Government has been partially replaced by full regulations. Firstly, areas of water resources management previously standardized under Land law are transferred into Federal law, insofar as there is a need for standardized nationwide regulation. Secondly, the new WHG also implements binding provisions under EC law³⁷. Above and beyond this, the new WHG also systematizes and unifies water legislation with the aim of improving the intelligibility and practicability of Germany's complex water legislation. In terms of structure and classification, it is similar to the old WHG.

The WHG lays down basic provisions relating to water resources management (management of water quantity and quality). It states that waterbodies, as a component of the ecosystem and as a habitat for fauna and flora, must be protected and managed in such a way as to serve the general public interest and, in harmony with this, must benefit the individual, in a manner which refrains from any avoidable impairments to its ecological function (precautionary principle). A high level of protection for the environment as a whole must be ensured (integrated environmental protection).

³⁵ Cf. *Becker*, Das neue Umweltrecht 2010, Munich 2010, pp. 9, 28.

³⁶ Federal Law Gazette 2009 Part I No. 51, p. 2585 ff.

³⁷ The legal framework for flood control, which had been significantly extended by the Flood Control Act of 2005, has been developed into comprehensive regulations. At the same time, the EU Directive on the assessment and management of flood risks has been transposed into German law.

As a general principle, waterbodies (inland surface waterbodies, coastal waters and groundwater) are subject to Government control. All uses of water (e.g. discharge of substances or abstraction of water) are, in principle, subject to official authorization, apart from a few significant exceptions. This is intended to prevent impairments to the water regime and enforce a precautionary approach to water protection.

Generally speaking, permits are issued at the discretion of the responsible water authority (management discretion). In certain cases, this discretion is restricted to the protection of waterbodies. For example, a permit to discharge sewage may only be granted provided certain minimum requirements are adhered to. These minimum requirements, which reflect the best available technology and which are differentiated according to industry and trade sectors, are outlined in greater detail in the Federal Government's Wastewater Ordinance.³⁸ (General provisions of the WHG, cp. Sec. 1- 49 WHG).

More stringent requirements, including bans on discharges, may be imposed by water authorities in individual cases in the light of immission considerations, in order to achieve the aspired water quality or facilitate specific water uses, for example.

Special provisions apply to installations for handling substances that are potentially hazardous to water. Graduated according to the volume and degree of hazard posed by such substances, these are intended to ensure that the installations are constructed and operated in an eco-friendly manner. In future, the Government plans to adopt a uniform nationwide Ordinance on the handling of substances potentially hazardous to water which will specify the requirements placed on such installations and the classification of such substances.

Important regulations in the WHG also include the provisions governing the construction and operation of wastewater treatment plants, water conservation officers, the development of waters and preventive flood mitigation, as well as the designation of water conservation areas in the interests of water supply. (Particular provisions of the WHG, cp. Sec. 50-95 WHG).

Following the 7th amendment of 2002, the provisions of the WFD have been transposed into national law. It sets out management objectives for all waterbodies which must be achieved by 2015 in accordance with the provisions of the Directive, which have now been transposed into national law. For surface and coastal waters, this means a good chemical and ecological status, while for bodies of groundwater, the requirement is a good quantitative and chemical status. The review submitted to the European Commission in March 2005³⁹ was an important interim stage in determining the gap between the current status and the objectives of the WFD.

The monitoring programmes for every river basin were prepared by 2006, while programmes of measures and management plans were completed by the end of 2009, outlining the measures required in order to realise the management objectives. Surface waters that have been artificially modified or whose hydromorphology has been significantly altered may be designated "artificial" or "heavily modified" if measures to achieve a good status would significantly adversely affect the uses for which the waterbodies were hydromorphologically modified. In such cases, they must achieve the equally ambitious objective of a good ecological potential, which refers to the best possible improvement in hydromorphology

³⁸ Ordinance concerning requirements for the discharging of wastewater into waters (Wastewater Ordinance - AbwV) in the version promulgated on 17 June 2004 (Federal Law Gazette [BGBl.] I, page 1108), most recently amended on 31 July 2009 (BGBl. I page 2585).

³⁹ Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit (Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, BMU): "Die Wasserrahmenrichtlinie – Ergebnisse der Bestandsaufnahme 2004 in Deutschland", 2nd edition, Bonifatius, Paderborn, August 2005.

without significantly adversely impairing uses. Exemptions from target achievement may be granted under certain stringent requirements. For example, the deadlines may be extended, or less stringent objectives formulated. The same applies in the event of major incidents or disasters, and in the case of “new” modifications to the waterbody structure.

In addition to the requirements of the WFD, in future, under the new WHG, the provisions of the Groundwater Directive, the Priority Substances Directive and the Flood Risk Management Directive will be uniformly transposed into national law in the Federal Republic of Germany.

Besides prospectively, the Federal Government may comprehensively regulate the protection of surface waters and groundwater by means of a statutory ordinance. Such a groundwater ordinance would make it possible to transpose the provisions of EC law into national law. In this way, the negligibility threshold concept developed on the basis of Article 34 of the WHG (old version) would be transposed into law. This concept will make it possible to expediently combine the requirements of soil conservation and groundwater protection. The same applies analogously to a future Federal Government Ordinance implementing Annexes II and V of the WFD and Directive 2008/105/EC (quality requirements for surface waters).

The framework provisions on flood alleviation already significantly extended by the Flood Control Act⁴⁰ will be expanded into full regulations by the new WHG. For example, implementing the Flood Risk Management Directive includes the introduction of a new category of “risk areas”. This category comprises areas at risk from both inland flooding and coastal flooding, including the identification of flood plains. An extensive catalogue of obligations continues to apply to flood plains, including the conservation and recovery of retention areas, the avoidance of any intervention which may encourage erosion, and restrictions on construction. The competent authorities are also required to prepare flood hazard maps and flood risk maps for the risk areas.

Anyone who pollutes a waterbody without authority is liable to prosecution under the Criminal Code (StGB). Civil compensation obligations are regulated in the WHG and in the Environmental Liability Act (UmweltHG).⁴¹

In summary, the Federal Water Act 2010 and its concurrent new state legislation allow a first exemplary examination of the new division of legislative powers and their implementation. The new construct of concurrent legislative power coupled with the deviation competence according to Art. 72 GG (German Basic Law) established by the Federalism Reform in 2006 merely shows its full impact through the interaction and linking of the different regulation levels of constitutional, simple federal and state law. Even though the experiences in executing the new construct and their assessment by the legislative courts remain to be seen, it is already evident that the conversion from the old framework legislation for water management did not pass without frictional losses. This is hardly surprising considering that the constitutional conversion as well as the simple-legislative conversion have been carried out in the short time of only one legislative period of the Bundestag. In addition, the undertaking to establish a common codification of German environmental law once more failed, leaving little time to concentrate on a genuine revision of water law. The precise concept of the new Federal Water Act compels to emphasize that the implicitness of the division of legislative power between the federal republic and the states is to be determined through interpretation of the German Basic Law. In detail this means that it is firstly to be examined whether, and where necessary to what extent, the federal legislator has exercised

⁴⁰ Act to Improve Preventive Flood Control of 3 May 2005, (Federal Law Gazette I, page 1224)35 Water Resource Management in Germany.

⁴¹ Environmental Liability Act, in the version of 10 December 1990 (Federal Law Gazette I, page 2634), most recently amended on 23 November 2007 (Federal Law Gazette I, page 2631).

his concurrent legislative power to regulate water management and by that principally excluded the states from the right to legislate. However, the states have, should the latter be the case, the right to deviate from this legislation as long as the federal provision does not concern substance- or plant-related matters in the sense of Art. 72 GG. The limited use as well as disposability of provisions of non substance- or plant-related nature can be clarified by the federal legislator through declaratory opening clauses where necessary. In contrast, the federal legislator cannot confer to the states the competence to legislate by constitutive opening clauses on a simple law level.

In case of a legitimate state legislation, the federal legislator has the right to revoke, which on its part triggers again the states' right to deviate. This in many ways problematic interaction, the probation test of which is still due, requires a cautious and ideally cooperative handling by the federal legislator and the states in order not to cause a situation of detrimental legal insecurity by a one-sided insistence on constitutive legal positions.

(2) Wastewater Charges Act

The Wastewater Charges Act (AbwAG)⁴² regulates the levying of charges for the direct discharge of wastewater into a waterbody. The charge is the first eco-tax to be levied at Federal level as a steering instrument. It ensures that the “polluter-pays principle” is applied in practice, since it requires direct dischargers to bear at least some of the costs associated with their use of the environmental medium of water. To clarify the “polluter-pays principle” it can be mentioned, that in environmental law, the polluter pays principle is enacted to make the party responsible for producing pollution responsible for paying for the damage done to the natural environment. It is regarded as a regional custom because of the strong support it has received in most Organisation for Economic Co-operation and Development (OECD) and European Community (EC) countries. In international environmental law it is mentioned in Principle 16 of the Rio Declaration on Environment and Development.

The “polluter-pays principle” underpins environmental policy such as an ecotax, which, if enacted by government, deters and essentially reduces the emitting of greenhouse gas emissions. Some eco-taxes underpinned by the polluter pays principle include: the Gas Guzzler Tax, in US, Corporate Average Fuel Economy (CAFE)- a "polluter pays" fine. The U.S. Superfund law requires polluters to pay for cleanup of hazardous waste sites, when the polluters can be identified:

The “polluter-pays principle” is also known as “extended polluter responsibility” (EPR). This is a concept that was probably first described by the Swedish government in 1975. EPR seeks to shift the responsibility dealing with waste from governments (and thus, taxpayers and society at large) to the entities producing it. In effect, it internalises the cost of waste disposal into the cost of the product, theoretically meaning that the producers will improve the waste profile of their products, thus decreasing waste and increasing possibilities for reuse and recycling.

The OECD defines EPR as *“a concept where manufacturers and importers of products should bear a significant degree of responsibility for the environmental impacts of their products throughout the product life-cycle, including upstream impacts inherent in the selection of materials for the products, impacts from manufacturers’ production process itself, and downstream impacts from the use and disposal of the products. Producers accept their responsibility when designing their products to minimise life-cycle environmental impacts,*

⁴² Act Pertaining to Charges Levied for Discharging Wastewater into Waters (Wastewater Ordinance – AbwV) in the version promulgated on 18 January 2005 (Federal Legal Gazette I, page 114), amended on 31 July 2009 (BGBl. I page 2585).

*and when accepting legal, physical or socio-economic responsibility for environmental impacts that cannot be eliminated by design”.*⁴³

The charge is determined on the basis of the quantity and harmfulness of certain specific constituents discharged into the water (Annex to Article 3 of the AbwAG). GEI is the dilution factor at which wastewater is no longer toxic in the fish egg test. The data in this table is based on the procedures for determining the toxicity of wastewater according to the relevant numbers in the Annex “Analysis and measurement techniques” to the Wastewater Ordinance in the version promulgated on 17 June 2004.⁴⁴

The Wastewater Charges Act meets the requirements of the WFD, which states that environmental and resource costs must be internalized in order to recover costs.

The charge per unit of noxiousness has increased several times from DM 12 initially in 1981 to DM 70 in 1997 (now € 35.79). The charge is designed to offer an economic incentive to avoid wastewater discharges as far as possible. The AbwAG provides for rate reductions if certain minimum requirements are met. In addition, certain types of investment designed to improve wastewater treatment may be offset against the charge.

The wastewater charge is payable to the German Federal States. The revenue generated must be used for water pollution control measures.

(3) Groundwater Ordinance

In October 2010 a new German Groundwater regulation⁴⁵ was adopted. It implements the Groundwater – Daughter Directive 2006/116/EC (GWD) and replaces the old Groundwater regulation of 18th March, 1997. The new regulation establishes criteria for the characterization, assessment, classification and monitoring of the groundwater status and for the identification and reversal of significant and sustained upward trends in pollutant concentrations in groundwater bodies. Measures must also be taken to prevent and limit the input of pollutants into groundwater and to prevent the deterioration of groundwater status. The aim of the regulation is to achieve or to maintain good quantitative and good qualitative groundwater status as demanded by WFD and GWD and to reverse significant pollution trends. Concerning good quantitative status the regulation implements the requirements of the WFD to ensure a balance between abstraction and recharge of groundwater. Good chemical groundwater status is determined by quality standards established by the EC for nitrate (50 mg/L) and for pesticides (=plant protecting agents and biocides) (0,1 µg/L for single substance, 0,5 µg/L for the sum) and nationally established threshold values for arsenic (10 µg/L), cadmium (0,5 µg/L), lead (10 µg/L), mercury (0,2 µg/L), ammonium (0,5 µg/L), chloride (250 µg/L), sulphate (240 µg/L) and tri- and tetrachlorethylene (sum :10 µg/L).

(4) Pipeline Ordinance

The Ordinance on Pipeline Installations (Pipeline Ordinance)⁴⁶ sets out requirements for long-distance pipelines requiring plan approval or planning permission under the Environmental

43 Organisation for Economic Cooperation and Development (OECD). Environment Directorate, Paris, France (2006). "Extended Producer Responsibility." Project Fact Sheet.

44 Federal Law Gazette I, p. 1108, 2625.

45 Ordinance on the protection of groundwater (Groundwater Ordinance - GrwV) of 9 October 2010 (Federal Law Gazette I, page 1513).

46 Ordinance on Pipeline Installations (Pipeline Ordinance) of 27 September 2002 (Federal Law Gazette I, page 3777, 3809), most recently amended by Article 23 of the Act of 31 July 2009 (BGBl. I page 2585).

Impact Assessment Act, for example. These requirements are designed to protect man and the environment, and in particular waterbodies, from any harmful impacts.

(5) Federal Soil Protection Act and Federal Ordinance on Soil Protection and Contaminated Sites

Significant discharges into groundwater are the result of harmful soil changes and residual contamination. The Federal Soil Protection Act⁴⁷ of 1998 specifies that polluters and their legal successors, land owners, former owners, parties who have renounced ownership and other liable parties under commercial law may be compelled by the authorities to remediate any groundwater damage caused as a result of harmful soil changes or residual contamination.

If the test values in the Soil Protection Ordinance⁴⁸ are exceeded, the party liable for remediation is generally required to conduct more extensive analyses. If these suspicions are confirmed, he may be required to make reasonable efforts towards remediation. The requirements pertaining to remediation are derived from water legislation.

(6) Act on the Environmental Compatibility of Washing and Cleansing Agents (Washing and Cleansing Agents Act)

The Washing and Cleansing Agents Act (WRMG)⁴⁹ regulates the manufacture, labelling and distribution of detergents and cleansing agents. It also lays down requirements governing the environmental compatibility of detergents and cleansing agents. Accordingly, the use of substances harmful to water may be prohibited or restricted. In addition, the principal ingredients and correct dosage must be shown on the packaging. The WRMG applies in addition to Regulation (EC) No. 648/2004 on detergents.⁵⁰

The Detergents Regulation outlines provisions on the biodegradability of tensides, among other things. These must be readily biodegradable, i.e. they must have degraded by more than 60 % into CO₂ and water within 28 days.

In 1993, the “Eco-Label Jury” awarded the “Blue Environment Angel” for the first time to a modular detergent system on the basis of stringent criteria vis-à-vis complete biodegradability and toxicity to aquatic organisms, with the aim of encouraging environmentally friendly housekeeping practices among consumers. In 1995, the criteria for a European eco-label for detergents (Euro-flower) formulated under Germany’s leadership were adopted, and replaced the Blue Environmental Angel for detergents. The “Euro-flower” has since been extended to include eco-friendly washing-up liquid, dishwasher detergents, all-purpose cleansers and sanitizers.

⁴⁷ Act for protection against harmful soil changes and for remediation of contaminated sites (Federal Soil Protection Act – BBodSchG) of 17 March 1998 (Federal Law Gazette I p. 502), most recently amended on 9 December 2004 by Article 3 of the Act Amending the Provisions on the Statute of Limitations in line with the Act to Modernise the Law of Obligations (Federal Law Gazette I page 3214).

⁴⁸ Federal Ordinance on Soil Protection and Contaminated Sites (BBodSchV) of 12 July 1999 (Federal Law Gazette I, no. 36, page 1554), most recently amended on 31 July 2009 (Federal Law Gazette I, page 2585).

⁴⁹ Act on the Environmental Compatibility of Washing and Cleansing Agents (WRMG) in the version promulgated on 29 April 2007 (Federal Law Gazette I, page 600).

⁵⁰ Regulation (EC) No. 648/2004 of the European Parliament and of the Council of 31 March 2004 on detergents, OJ L 104, page 1, most recently amended on 25 June 2009, OJ L 164, page 3).

(7) Drinking Water Ordinance

The Drinking Water Ordinance⁵¹ lays down specific requirements governing the quality of drinking water and of water for food factories and drinking water treatment. The Drinking Water Ordinance contains provisions governing the properties of drinking water, the obligations incumbent upon the operator of a water supply plant, and hygiene-related monitoring of the operator by the health authorities. The Ordinance also specifies limits for substances harmful to human health (such as heavy metals, nitrate, organic compounds) and pathogens, as well as the scope and frequency of analysis. The limit values for these substances correspond to those in the EC Drinking Water Directive and are set at a level where no harmful effects are expected to result from lifelong intake. In other words, the Ordinance on Drinking Water implements the EC Drinking Water Directive. It sets out specific requirements for the quality of water for human use (drinking water), comestibles-producing industries, as well as for the quality of drinking water conditioning.⁵² For organo-chemical pesticides and insecticides, for example, the maximum concentration is 0.1 µg/l. The sum total of such active ingredients is limited to 0.5 µg/l. The limit for nitrate in drinking water is 50 mg/l.

The ordinance particularly includes rules on the quality of drinking water and the duties of an operator of water supply facilities as well as on the supervision of operators through sanitary authorities with respect to hygiene.⁵³ Furthermore, the Ordinance sets out limits for deleterious substances and pathogenic agents and determines the frequency and extent of water tests.⁵⁴

bb. Water resources legislation of the Federal German States

Despite the Federalism Reform and the new extended Federal Water Act (WHG), the water legislation of the Federal German States (State water acts, State wastewater acts and various legal ordinances) still retains its importance, because it transposes and supplements Federal Government legislation. It is currently impossible to conclusively gauge the extent to which the Federal German States make use of the deviation rights granted to them under Article 72, para. 3 of the Basic Law (GG)⁵⁵ and supersede Federal legislation with Federal State law.

The local authorities, within the context of their powers to adopt by-laws, may also adopt binding regulations, particularly provisions regulating connection to municipal water supply and sewage disposal plants, discharges into their sewage plants (indirect discharges) and the levying of cost-covering fees.

Under current law in 11 Federal German States, a charge is made for the abstraction of water. The charge is payable by the party that abstracts the water (groundwater, and in some cases surface water as well); in the case of public water supplies this is the supply utility, which passes the costs on to the consumer. The purpose of the water abstraction charge is to reduce water extraction and thereby conserve the water resources used for this purpose. The water abstraction charges collected are often used for water conservation measures. In some Federal German States, the legislation explicitly states that the water abstraction charges must be earmarked for such purposes. The new Federal Water Act does not contain any provisions on the water abstraction charge.

⁵¹ Federal Law Gazette 2001 I, 959; amended version in Federal Law Gazette 2011 I, p. 748.

⁵² Cf. Parts 2 and 3 of the Ordinance on Drinking Water.

⁵³ Cf. Para. 4 et seq., 13 et seq., and 18 et seq. Of the Ordinance on Drinking Water.

⁵⁴ Cf. Para. 5 et seq. and 14 of the Ordinance on Drinking Water.

⁵⁵ Basic Law for the Federal Republic of Germany of 23 May 1949 (Federal Law Gazette, page 1), most recently amended by Article 1 of the Act of 29 July 2009 (Federal Law Gazette I, page 2248).

(1) Legal Sources of German states water laws

As mentioned, a definitive verdict on the question to what extent the German states will also make use of the permission to enact variant laws granted in article 73 (3) Basic Law and will exchange or complete federal provisions with own regulations is not yet possible, given that the WHG only came into effect on March 1st, 2010.

The provisions of eleven German states levy a charge for the abstraction of water from a water body (see, for instance, para. 17 a of the Water Law of Baden-Württemberg, para. 16 of the Water Law of Mecklenburg- Vorpommern, para. 1 of the Saarland's Groundwater Abstraction Charge Act). The charge falls upon the agent extracting the water,⁵⁶ i.e. the public utility company in the case of public water supply⁵⁷, which will pass the essence on the consumer. The abstraction charge revenue is often appropriated for water protection measures.⁵⁸ In some cases, German states law expressly prescribes this earmark (see, for instance, para. 8 Saarland's Groundwater Abstraction Charge Act). This refers to the principle of full cost recovery borrowed from Art. 9 WFD, see above.

(2) Municipal Statutes

Municipalities can also enact binding regulations within the limits of their sovereignty to pass municipal statutes. For example, they determine the waste water charges and obligations to connect to the municipal water supply and waste water removal system.⁵⁹

⁵⁶ Cf. para. 3 (1) and 1(1) of Saarland's Groundwater Abstraction Charge Act.

⁵⁷ Cf. *Breuer*, *Öffentliches und privates Wasserrecht*, 3rd ed., 2005, p.669.

⁵⁸ Brochure of the Federal Environmental Agency on water resources in Germany, Berlin 2010, p. 39.

⁵⁹ See, for instance, the Statute on Public Waste Water Removal of the city of Heidelberg of December 18, 1980. <http://www.heidelberg.de/servlet/PB/menu/1105553/index.html>.

III. Future prospects – The way forward

Germany's river basin management plans were submitted to the European Commission on 22 March 2010 following extensive consultation with water users, various interest groups, and interested members of the general public. The measures for the initial river basin management plan period must be implemented by 2012. The environmental objectives promulgated by the *Water Framework Directive* must be met by 2015; and by 2027 all such objectives must be observed, including in cases where deadlines were extended. The mandated *Water Framework Directive* deadlines are nothing if not ambitious, particularly in view of the uncertainty that remains concerning some of the assessment procedures and forecasts in connection with measure effectiveness.

Moreover, monitoring will also be a major challenge. Important questions, such as to what extent monitoring of agricultural measures is necessary or how many investigations are needed to obtain representative data concerning waterbody status have to be answered. Moreover, an integration of more effective water protection instruments into the agricultural environment has to be performed. A decision needs to be made as to the point at which voluntary measures no longer suffice and thus usage restrictions need to be imposed and possibly compensated for. The European Agricultural Fund for Rural Development (EAFRD)⁶⁰ Regulation 1290/2005 calls for just such a procedure.

A major problem we face prospectively is a shortage of nature conservation and water protection areas. For example, sufficiently wide buffer strips along water bodies would promote the development of more natural habitats and would act as a retention platform for pollutant inputs. Land use pressures are being further intensified by biomass cultivation –for example in Northern Germany, where considerable tracts of erstwhile extensively farmed cropland are being used for energy crops. Chemical status assessments should be based on the requirements laid out in the new Environmental Quality Standard daughter directive of the *Water Framework Directive*, which have yet to be implemented in all river basins. The threshold value for mercury in biota is probably being exceeded throughout Germany owing to elevated emissions from incineration plants, and the debate as to whether further measures are needed for mercury and other toxins is already underway. Any minimization measures that are adopted in this regard would benefit not only rivers and lakes, but also oceans. Water is a crucial economic factor. Economic programmes may make a growing contribution in the coming years to achieving sustainable water protection and should be incorporated more extensively into water resource management models. We need to build methods that allow for the identification and assessment of cost efficient measures, and simple and practical methods that factor in environmental and resource costs.

The *Water Framework Directive* stipulates that the member states had to develop efficient water pricing policies by 2010. This entailed implementation of water prices that allow for the recovery of all operational, environmental and resource costs, which in turn had to be

⁶⁰ The reforms of the Common Agricultural Policy (CAP) of June 2003 and April 2004 focus on rural development by introducing a financial instrument and a single programme: the European Agricultural Fund for Rural Development (EAFRD). This instrument, which was established by Regulation (EC) 1290/2005, aims at strengthening the EU's rural development policy and simplifying its implementation. In particular, it improves the management and controls of the rural development policy for the period 2007-2013.

allocated to the main user groups in accordance with the polluter pays principle. The discussion concerning that problem of great economical influence lingers on.

Besides, climate change is set to take on increasing importance when it comes to implementing river basin management plans, which currently contain no indication to the effect that climate change is relevant for water resources.

Nonetheless, the effects of climate change such as lengthy droughts, increased flooding, and the necessary adaptation strategies will inevitably become relevant for future action plans.

Summarized, the water protection policies of tomorrow will centre on agriculture, energy generation, and resource management policy. In order to achieve the ecological objectives, new ways must be found to reconcile the interests and concerns of the whole spectrum of water users. Classic methods alone will not suffice here because water protection necessitates the participation of all political actors, as well as constructive input from water users, state and federal water and agricultural authorities, municipalities, parties responsible for maintenance, and volunteers.

If it will manage to pull together all stakeholders in this fashion, the *European Water Framework Directive* in interaction with the national implementation, the *Federal Water Act*, offer an extraordinary opportunity to achieve outstanding water protection in an optimally efficient manner, and in so doing harmonize sustainable water management with other environmental protection objectives – and as result to attain a status that will durably safeguard the scarce and therefore precious water resources. Germany's early decisions originate a good initial situation for that objective – and ultimately already the Basic Law for the Federal Republic of Germany⁶¹ affirms in Article 20a⁶² that “*mindful also of its responsibility toward future generations, the state shall protect the natural bases of life by legislation and, in accordance with law and justice, by executive and judicial action, all within the framework of the constitutional order*”.

⁶¹ In the version promulgated on 23 May 1949 (first issue of the *Federal Law Gazette*, dated 23 May 1949).

⁶² Protection of the natural bases of life.

IV. Addendum - Important timeframes in the *Water Framework Directive*

	Article in <i>Water Framework Directive</i>	Deadlines ⁶³
Entry into force	25	around 4 th quarter 2000
Legal implementation		
- Adopting statutory provisions	24	Dec. 2003
- Identification of the competent authority	3 (7)	Dec. 2003
- Notifying the EC of competent authorities	3 (8)	June 2004
Status review		
- Analysis of characteristics of a river basin district	5 (1)	Dec. 2004
- Register of areas requiring protection	6 (1)	Dec. 2004
- Reviewing and assessing significant impacts	5 (1)	Dec. 2004
- Economic analysis of water use	5 (1)	Dec. 2004
- Updating of reviews and analyses	5 (2)	Dec. 2013/2019
EC regulation of groundwater		
- Adoption of measures to protect groundwater by EC	17 (1)	Dec. 2002
- Criteria for chemical status and trend reversal by EC	17 (2)	Dec. 2002
- Criteria on a national basis (if necessary)	17 (4)	Dec. 2005
Monitoring programmes		
- Setting up networks and putting them into operation	8	Dec. 2006
Public information and consultation		
- Active involvement of all interested parties in implementation		ongoing
- Publication of a timetable and work programme ⁶⁴	14 (1a)	Dec. 2006
- Publication of the most important water management issue ⁶⁵	14 (1b)	Dec. 2007
- Publication of drafts of the management plan ⁶⁶	14 (1c)	Dec. 2008
Management plan and programme of measures		
- Drawing up and publishing the management plan	13 (6)	Dec. 2009
- Drawing up a programme of measures	11 (7)	Dec. 2009
- Implementing the measures	11 (7)	Dec. 2012
- Updating the management plan	13 (7)	Dec. 2015
- Updating the programme of measures	11 (8)	Dec. 2015

⁶³ The deadlines refer to the obligation to report to the EC; in some cases much shorter deadlines are to be set for finalising plans in the sub-basin survey areas.

⁶⁴ Every six years.

⁶⁵ Every six years.

⁶⁶ Every six years.

Achieving objectives

- Good surface water status	4 (1a)	Dec. 2015
- Good groundwater status	4 (1b)	Dec. 2015
- Compliance with objectives for protected areas	4 (1c)	Dec. 2015
- Extension of deadlines to meet objectives	4 (4)	Dec. 2021/2027

Lists of priority substances

Annex X

- Proposal of limit values for substance exports and imports	16 (8)	Dec. 2003
- Review of the priority substances list	16 (4)	Dec. 2004
- Phasing out discharges of priority hazardous substances	16 (6)	20 years ⁶⁷

Recovering the costs of water services

2010

- Introduced by	9 (1)
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⁶⁷ After proposals on the implementation of the requirements for priority hazardous substances have been adopted.