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*Annex to the*

**COMMUNICATION FROM THE COMMISSION  
TO THE EUROPEAN PARLIAMENT AND THE COUNCIL**

**'Towards Sustainable Water Management in the European Union'**

**First stage in the implementation of the Water Framework Directive 2000/60/EC**

**4<sup>th</sup> Commission Report (Executive Summary)  
on Implementation of the Urban Waste Water Treatment Directive**

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Data in this report are based on reports by Member States  
and reflect the state of play of 1 January 2003

## 1. INTRODUCTION

The European Union is bringing together, across its 27 Member States, a population of more than 492 million people. Waste water generated by these people, as well as by industry, is a major source of pollution of our waters; waste water discharges may have wide-ranging impacts, on our groundwaters, our rivers and lakes as well as on our regional seas. Impact on drinking water supplies, over-fertilisation (eutrophication<sup>1</sup>) and loss of biodiversity are only some of these impacts.

The Urban Waste Water Treatment Directive<sup>2</sup> ('the Directive') is addressing these challenges by measures at the source of the pollution, i.e. by providing for collection and treatment of waste water in all settlement areas and areas of economic activity above a certain size ('agglomerations'<sup>3</sup>). As a rule, only areas sufficiently concentrated and having a population of more than 2,000 people or the equivalent in waste water ('population equivalents') are covered; areas below this threshold as well as isolated buildings are not covered. As a rule, the Directive provides for biological waste water treatment ('secondary treatment'), and thus a drastic reduction of the biodegradable pollution in waste water - which otherwise would severely impact on oxygen balance and ecosystems of our waters. In the catchments of particularly sensitive waters ('sensitive areas'), such as those suffering from eutrophication, more stringent treatment measures are required, to additionally eliminate nutrient pollution (nitrogen and/or phosphorus) from waste water. Proper implementation of the Directive is also indispensable for achieving the objective of 'good status' for all our waters – rivers, lakes, groundwaters and coastal waters, as set in the EU Water Framework Directive<sup>4</sup>.

Coherent with other EU water legislation, the Directive is ambitious and legally binding in its environmental objectives, however fully flexible as regards the paths how to achieve these objectives – thus allowing for, and encouraging, innovation and technological development. This is true not only for the treatment, but also for waste water collecting systems; any alternative solutions are possible, provided they achieve the same level of environmental protection.

The time schedules for achieving the environmental objectives are staged (1998 – 2000 – 2005), depending on the characteristics of the affected waters and the size of the waste water pollution load ('agglomeration'). As for the new Member States in Central and Eastern Europe and the Mediterranean, staged transition periods have been set in a clear and legally binding way within the Accession Treaties; at the same time, considerable financial support

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<sup>1</sup> Eutrophication: enrichment of water by nutrients, especially compounds of nitrogen and/or phosphorus, causing an accelerated growth of algae and higher forms of plant life to produce an undesirable disturbance to the balance of organisms present in the water and to the quality of the water concerned.

<sup>2</sup> Council Directive of Council Directive 91/271/EEC of 21 May 1991 concerning urban waste water treatment, OJ L 135 of 30.5.1991, as amended by Commission Directive 98/15/EC of 27 February 1998, OJ L 67 of 29 7.3.1998

<sup>3</sup> Definition of 'agglomeration' in article 2(4) of the Directive

<sup>4</sup> 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 L327 of 22.12.2000, as amended by Decision No 2455/2001/EC of the European Parliament and of the Council of 20 November 2001, OJ L331 of 15.12.2001

will be available with the EU Cohesion Policy to address the necessary planning and infrastructure needs. Such transition periods do as a rule not exceed 2015; in one case – Romania - smaller ‘agglomerations’ have to comply by 2019<sup>5</sup>.

The Commission is presenting this implementation report to all interested and involved parties, together with its first report on the implementation of the Water Framework Directive. It is based on a questionnaire to Member States (EU15). Information provided by Member States is in many cases comprehensive, in several cases at least partly incomplete; replies until the end of 2003 have been taken into account. The status of implementation of Directive 91/271/EEC for all EU27 Member States is planned to be published in 2008. Target audience are citizens, European Institutions, national, regional and local administrations as well as non-governmental organisations, stakeholders and, not least, the scientific and research community.

## 2. STATUS AT EU LEVEL

### 2.1. Overview

Within the EU as of 2003 (EU15), there are a total of about 22,000 settlement areas and areas of economic activity (‘agglomerations’) within the scope of the Directive of >2,000 population equivalents (p.e.)<sup>6</sup>, amounting to a total waste water pollution load of about 550 million p.e. Out of the staged obligations and deadlines of the Directive

- 1998: waste water collection and treatment for agglomerations >10,000 p.e. discharging into the catchment of sensitive areas,
- 2000: waste water collection and treatment for agglomerations >15,000 p.e. discharging into normal areas,
- 2005: waste water collection and treatment for all other agglomerations within the scope of the Directive,

this report covers the obligations and deadlines due by 1998 and 2000.

According to reports received from Member States, 8,195 agglomerations<sup>7</sup> have been identified in EU15 by 1 January 2003, amounting to a total waste water pollution load of more than 470 million p.e. Figure 1 presents a summary assessment of these waste water discharges, split by discharges into sensitive areas (SA) and normal areas (NA).

The figures lead

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<sup>5</sup> For more information please refer to [http://ec.europa.eu/environment/water/water-urbanwaste/index\\_en.html](http://ec.europa.eu/environment/water/water-urbanwaste/index_en.html)

<sup>6</sup> Population equivalent (p.e.) is the standard unit for calculating the organic biodegradable pollution load, 1 p.e., equals the average pollution generated by one person within one day.

<sup>7</sup> This figure of 8,195 includes 3,941 agglomerations in EU15 except Germany and the Netherlands and 4,253 urban waste water treatment plants as these two later Member States apply article5(4) of the Directive (i.e. overall 75% reduction rate for total phosphorus and for total nitrogen from all urban waste water treatment plants serving all agglomerations independently on their size is required).

- to a compliance rate of 79 % for normal areas, and
- to a compliance rate of 84 % for sensitive areas.

As regards the sensitive areas, the Commission has after technical-scientific assessment come to the conclusion that in several Member States the designation of sensitive areas is insufficient (and consequently more stringent treatment is required for agglomerations >10,000 p.e.). In addition, information reported by Member States is in certain cases incomplete; further details on this issue are presented in section 3 of this document on “Overall assessment and initiatives by the Commission” and in the full version of the report<sup>8</sup>.

## **2.2. Analysis of implementation progress**

### *2.2.1. Designation of sensitive areas*

Appropriate designation of sensitive areas is a crucial first task in implementing the Directive, as the character of the affected water body is shaping the treatment requirements as well as the deadlines. On sensitive areas, the Directive provides for the options for the Member States of either designating individual sensitive areas based on the set criteria, or applying more stringent treatment over all their territory. These options have been taken by EU15 Member States up as follows:

- Seven Member States – Belgium, Denmark, Luxembourg, the Netherlands, Austria, Sweden and Finland – apply the more stringent treatment over their whole territory.
- Eight Member States – Germany, Spain, France, Greece, Ireland, Italy, Portugal and the United Kingdom - have identified a total of 973 individual water bodies as sensitive areas and delineated their relevant catchments.

The designation of sensitive areas is considered insufficient in a range of cases, requiring – compared to those areas designated by 2003 – additional designation of 104 sensitive areas in EU15. This concern in particular water bodies which are eutrophic or at risk of becoming eutrophic - the North Sea, the coast of North East Atlantic, the Baltic Sea and the Northern Adriatic, plus a significant number of inland waters and estuaries.

The distribution of the generated waste water pollution load (discharges into normal areas and sensitive areas) as reported by Member States is shown in figure 1.

With the accession of the Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovak Republic and Slovenia in 2004, and of Bulgaria and Romania in 2007, the situation as regards sensitive areas has changed: The Baltic Sea, the Black Sea and the Northern Adriatic have the character of sensitive areas, thus necessitating for the countries in their catchment the need for more stringent treatment. Given the character of the Black Sea as sensitive area and that the Black Sea now falls within the scope of the Directive, EU15 Member States within the Danube catchment (Austria, Germany, Italy) will within seven years have to ensure the necessary nutrient removal (article 5(7)), unless they already apply the more stringent treatment.

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<sup>8</sup> [http://ec.europa.eu/environment/water/water-urbanwaste/index\\_en.html](http://ec.europa.eu/environment/water/water-urbanwaste/index_en.html)

### 2.2.2. Waste water treatment

The 1998 and 2000 deadlines of the Directive cover as their scope agglomerations >10,000 p.e. discharging into sensitive areas (1998), and agglomerations >15,000 p.e. discharging into normal areas (2000). Out of the total waste water pollution load in EU15 of >550 million p.e., they cover >470 million p.e. Overall compliance rates as reported by Member States in terms of waste water pollution load are presented in figure 1.

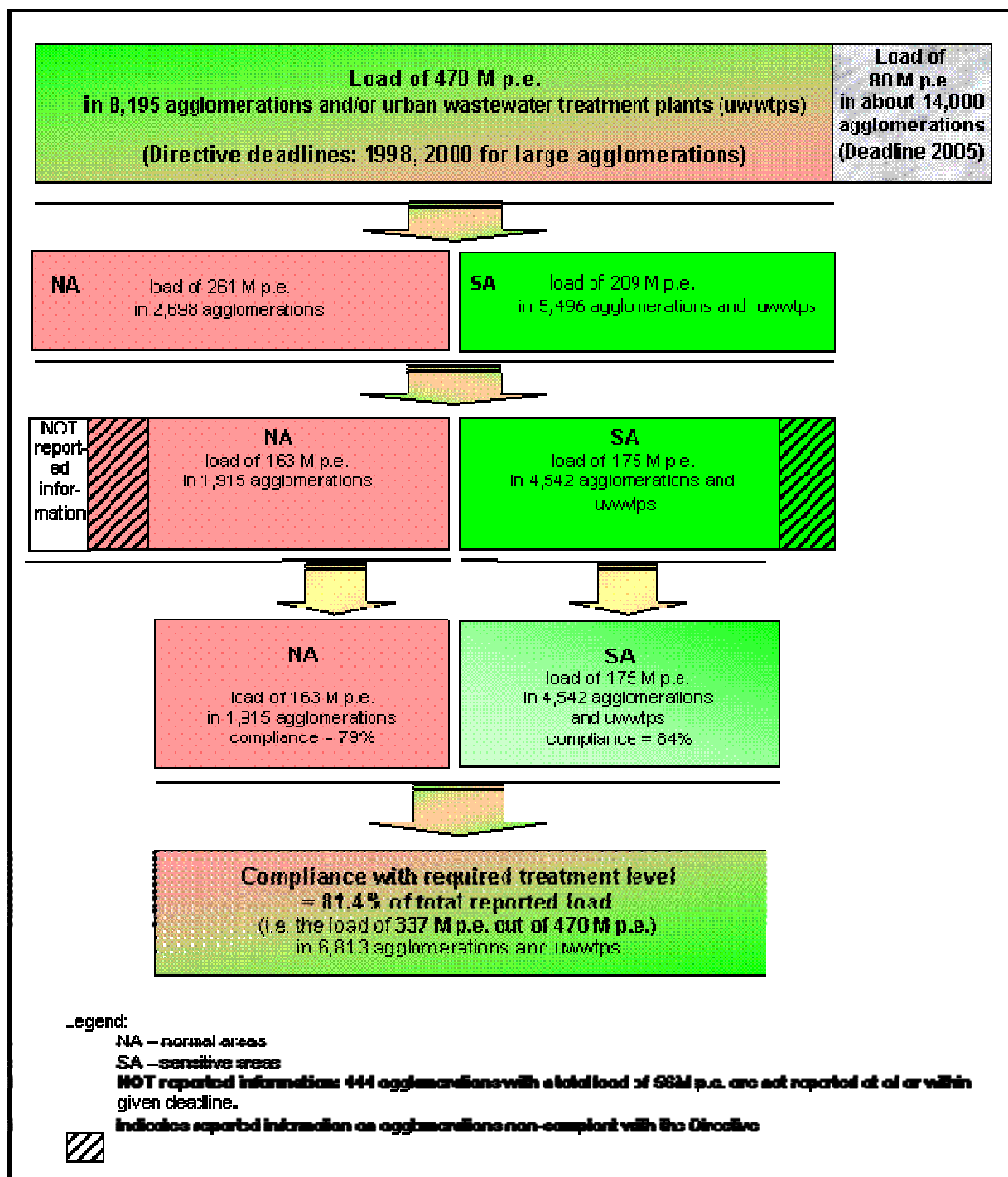


Figure 1: Implementation of the Directive (as reported by Member States)

### 2.2.2.1. Waste water discharges into sensitive areas

According to reports received from Member States, a total of 1,243 agglomerations >10,000 p.e. and of 4,253 urban waste water treatment plants were discharging into sensitive areas and their catchments. The figures are provided separately for agglomerations and treatment plants, as the Directive provides for the options of

- either complying with the treatment objectives of the Directive for each individual waste water treatment plant, serving agglomerations >10,000 p.e. (article 5(2,3)),
- or complying with the Directive for **all** waste water treatment plants in a specific area, ensuring an overall reduction of at least 75 % for both phosphorus and nitrogen (article 5(4)).

Compliance rates for each of the EU15 Member States in terms of waste water pollution load are presented in figure 2.

### 2.2.2.2. Waste water discharges into normal areas

According to reports received from Member States and due to the prevailing hydrological and ecological circumstances, distribution of sensitive areas and normal areas varies widely between Member States. Eight Member States (Germany, Spain, France, Greece, Ireland, Italy, Portugal and the UK) have both normal areas and sensitive areas, while Belgium, Denmark, Luxembourg, the Netherlands, Austria<sup>9</sup>, Finland and Sweden apply the more stringent treatment for sensitive areas over all their territory.

Compliance rates for each of the EU15 Member States in terms of waste water pollution load are presented in figure 2.

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<sup>9</sup> with effect from 2002

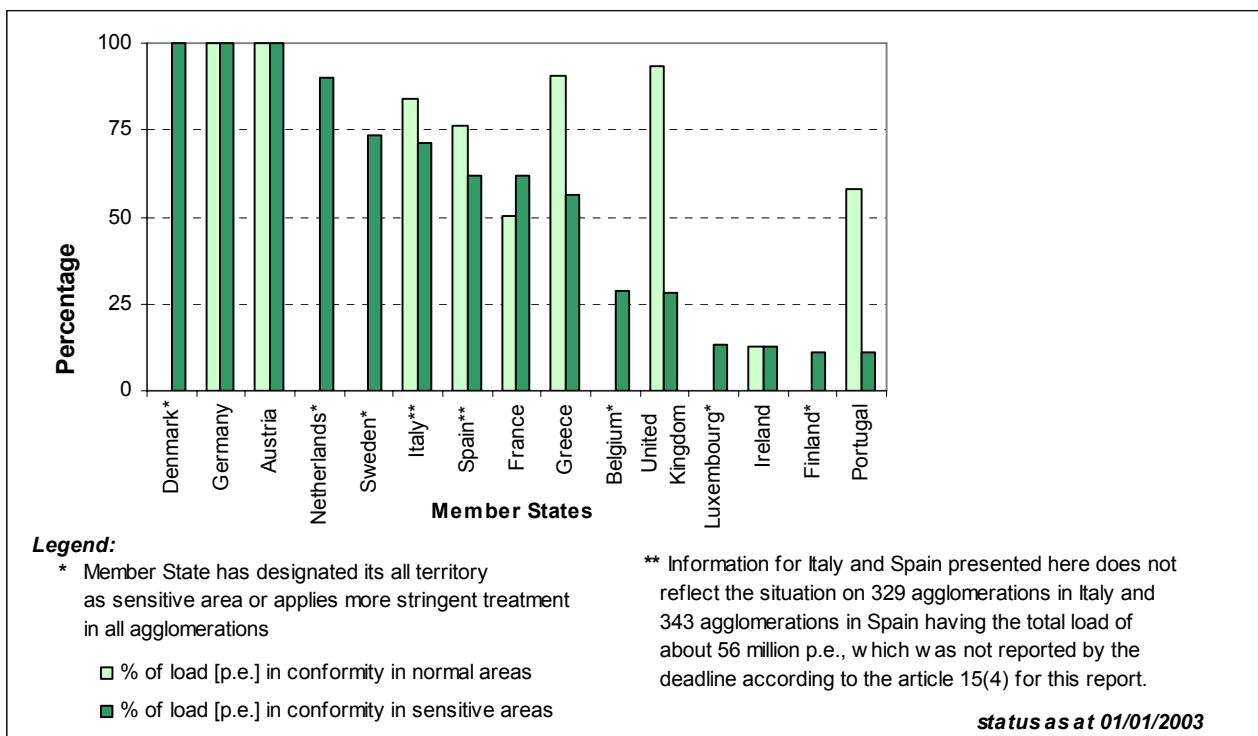


Figure 2: Compliance with required treatment level by Member States (normal areas and sensitive areas)

### 2.2.3. 'Big cities' - waste water discharges from agglomerations >150,000 p.e.

In order to provide European citizens and interested parties targeted information on their local and regional environment, the Commission has also undertaken to present figures on waste water treatment in 571 'big cities' (i.e. agglomerations >150,000 p.e.), based on reports received from Member States. These 'big cities' account for 55 % of the total waste water pollution load covered by the 1998 and 2000 deadlines (i.e. of >470 million p.e.).

Summarising, 349 out of the 571 'big cities' complied with the treatment requirements of the Directive without any need for upgrading the treatment. There were 17 'big cities' without any waste water treatment on 01/01/2003, however several of these cities have by the time of publication of this report complied, though, belatedly, with the requirements. Compliance rates for each of the EU15 Member States in terms of waste water pollution load are presented in figure 3.

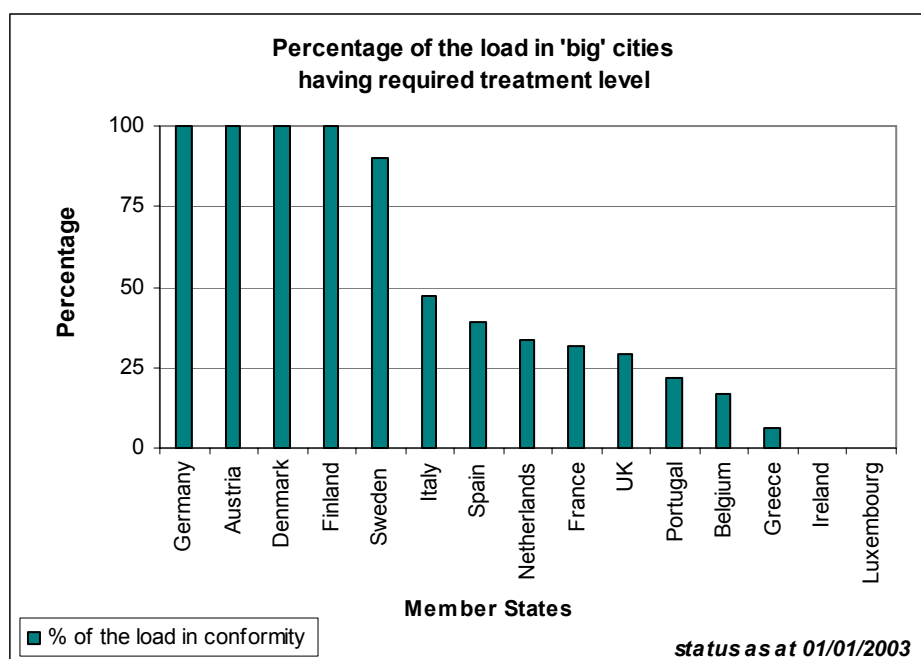


Figure 3: 'Big cities' >150,000 p.e. - compliance by Member States without any need to upgrade the treatment

### 3. OVERALL ASSESSMENT AND INITIATIVES BY THE COMMISSION

#### (1) Overall assessment

Overall figures for implementation of the Directive show, based on reports received from Member States, considerable progress and well as deplorable shortcomings. Both facts are underpinned by recent data collated through the environmental assessment of pressures and impacts under the Water Framework Directive. To provide to examples, the compliance rate for adhering to objectives and deadlines due in 1998 and 2000 as reported by Member States is 81.4 % in total (based on waste water pollution load), and the number of 'big cities' without adequate waste water treatment has declined from 27 in 1999 to 17 in 2003.

#### (2) Key implementation gaps identified by the Commission:

##### (a) *Inadequate reporting or lack of reporting:*

- 444 agglomerations with a waste water pollution load of 56 million p.e. in Italy and Spain have been not reported at all or at the required time frame.

##### (b) *Inadequate treatment or lack of treatment:*

Based on the compliance data reported by Member States it can be concluded that there is

- Inadequate waste water treatment from agglomerations discharging into designated sensitive areas (secondary treatment instead of more stringent treatment involving nitrogen removal), mainly for agglomerations in France, Belgium, Italy, UK, Luxemburg, Portugal, Finland and Sweden, accounting for about 10.3% (or 48.4 million p.e.) of the total waste water load.
- Inadequate waste water treatment from agglomerations discharging into normal areas (primary treatment instead of secondary treatment), mainly for agglomerations in Spain, Italy, Portugal, Greece, Ireland, UK, France and Belgium), accounting for 8.9% (or 42 million p.e.) of the total waste water load.
- Lack of waste water treatment (or preliminary treatment only) from of total of 283 agglomerations, mainly in Spain, Belgium, Italy, Portugal and Greece, accounting for 4% (or 18.7 million p.e.) of the total waste water load. Amongst these agglomerations were 17 'big cities' (agglomerations >150,000 p.e.) with no treatment by 2003<sup>10</sup>.

(c) *Insufficient designation of sensitive areas:*

In addition, following technical-scientific assessment, the Commission has come to the conclusion that across a range of Member States, an additional 104 sensitive areas and their related catchments should have been designated (mainly in Spain, the United Kingdom, Italy, Ireland, France and Portugal), entailing the need for an upgrading of the treatment applied for a significant number of discharges, including 787 agglomerations, representing 21.5% (101 million p.e.) of the total waste water load.

Taking into account the above, a considerable number of treatment plants will require upgrading. The Commission assessment is that compliance with the Directive is clearly not yet sufficient. Consequently, the Commission has taken legal actions in all these areas<sup>11</sup>.

- (3) Commission action to facilitate, encourage and enforce implementation is based on three pillars
- Establishing informal cooperation with individual Member States as well as across the EU (bilateral workshops and seminars; process under the Common Implementation Strategy for the Water Framework Directive); development and endorsement of a document "Terms and definitions of the Urban Waste Water Treatment Directive 91/271/EEC".
  - Reshaping the system of data exchange, information and report between Commission and Member States (development and endorsement of a new and

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<sup>10</sup> Further details on this issue are presented in the informal background documents at [http://ec.europa.eu/environment/water/water-urbanwaste/index\\_en.html](http://ec.europa.eu/environment/water/water-urbanwaste/index_en.html)

<sup>11</sup> Further details on this issue are presented in the informal background documents at [http://ec.europa.eu/environment/water/water-urbanwaste/index\\_en.html](http://ec.europa.eu/environment/water/water-urbanwaste/index_en.html)

targeted data exchange and reporting system within WISE – Water Information System for Europe); the first elements of WISE to be operationally used already in 2007, and

- Commencing formal infringement procedures including where appropriate application to the European Court of Justice; ongoing infringement procedures focus in particular on inadequate designation of sensitive areas, lack of treatment and/or inadequate treatment and inadequate storm water overflows. Several crucial judgments by the European Court of Justice have already been passed. Information on the status of infringement procedures is presented in the full version of the report.

#### 4. CONCLUSIONS

Domestic and industrial biodegradable waste water continues to be a major challenge for achieving European water protection objectives, due to its potential impacts on our groundwaters, our rivers and lakes as well as on our regional seas. Step-by-step implementation of the Urban Waste Water Treatment Directive has already achieved remarkable successes, as outlined by just two examples. The Rhine is in its catchment bringing together parts of 8 countries, 6 EU Member States (Austria, Belgium, France, Germany, Luxembourg and the Netherlands) and two non-EU countries (Liechtenstein and Switzerland). Implementation of the Directive, together with comprehensive cooperation across administrative and political borders including remediation efforts on river continuity, has led the Rhine from being called the ‘sewer of Europe’ to being home again to the salmon, one of the symbols of good water quality. Similar developments have taken place in the Elbe/Labe river basin, shared by the Czech Republic and Germany (plus smaller parts of Austria and Poland). Again, implementation of the Directive together with comprehensive cooperation across administrative and political borders, has allowed the Salmon to return this river as well.

Development of this report has still been based on traditional reporting procedures, with predictable delays as well as lack of data exchange and cooperation. It has confirmed the need for a thorough revision of information exchange and reporting provisions on water, as now jointly endorsed and developed by Commission, European Environment Agency and Member States. The Commission is pleased to launch, together with the presentation of this report, WISE, the Water Information System for Europe. WISE will for the future provide considerable advantages in terms of information quality and speed, whilst reducing currently burdensome administrative procedures and providing a readily available instrument for compliance checking, information on the state of the environment and assessment of policy effectiveness. It will, together with the common implementation strategy for the Water Framework Directive, provide a further example of Good European Governance.

Looking at the implementation record of EU15 Member States, Denmark, Germany and Austria have been recording high levels of compliance of close to 100%, closely followed by the Netherlands with an only slightly less ambitious record. Whilst implementation is not as successful across all Member States, these countries have demonstrated that the Directive provides for a sound and feasible framework for addressing the waste water-related challenges to our aquatic environment, and for achieving notable improvements in water

quality. Progress in waste water treatment has also drastically improved the quality of our beaches since the adoption of the Urban Waste Water Treatment Directive, with significant increases in compliance of our beaches with the quality standards of the EU Bathing Water Directive<sup>12</sup>.

Whilst considerable progress has been achieved, major challenges are still prevailing. Significant amounts of waste water are still discharged without the necessary level of treatment, in particular as regards nutrient removal in the catchment of waters suffering from eutrophication. As for the new Member States, which joined the EU in 2004 and 2007 respectively, key challenges are lying ahead, in order to align waste water treatment in these countries with the provisions of the Directive, and indeed with the environmental objective of 'good status' under the Water Framework Directive.

The Commission has where appropriate, in its role as Guardian of the Treaty, taken legal action against Member States failing to fulfil their obligations under this Directive, including applications to the European Court of Justice, and will continue to take such action – including the instrument of application for imposition of a lump sum or penalty payments under article 228 Treaty. Key target areas of such scrutiny are, and will continue to be, ensuring the necessary level of waste water treatment and, linked to this issue, the correct designation of 'sensitive areas' and associated waste water treatment, in particular those waters under the threat of eutrophication. Recent data collated through the environmental assessment of pressures and impacts under the Water Framework Directive, confirm eutrophication of our regional seas (Baltic Sea, Black Sea, Northern Adriatic, North Sea) – caused by waste water discharges and/or nitrates pollution from agricultural origin – as one of the key challenges for water protection across Europe.

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<sup>12</sup> Council Directive 76/160/EEC of 8 December 1975 concerning the quality of bathing water, OJ L31 of 5.2.1976