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**COMMISSION STAFF WORKING PAPER**

**6th Commission Summary on the Implementation of the Urban Waste Water Treatment  
Directive**

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**6th Commission Summary on the Implementation of the Urban Waste Water Treatment Directive**

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ANNEX: OVERVIEW ON WASTE WATER TREATMENT AT MEMBER STATE LEVEL

## 1. INTRODUCTION

The Urban Waste Water Treatment Directive<sup>1</sup> (hereinafter referred to as “the Directive”) is a cornerstone of EU water legislation. Its objective is to protect the environment from the adverse effects of discharges of urban waste water from settlement areas and biodegradable industrial waste water from the agro-food sector, by requiring Member States to ensure that such water is collected and adequately treated<sup>2</sup>. Full implementation of the Directive is also a pre-requisite for meeting the environmental objectives set out in the EU Water Framework Directive<sup>3</sup> as well as in the Marine Strategy Framework Directive.<sup>4</sup>

At the reference years for this assessment, (2007 and 2008), the population of the 27 Member States of the European Union was 497 million in 2008<sup>5</sup>. Waste water generated by this population and by the industry is a major source of pollution of European waters including groundwater, rivers, lakes and seas. Waste water discharges can lead to excessive nutrient loads (eutrophication<sup>6</sup>), accelerate biodiversity losses and affect drinking water supplies or bathing water sites and thereby have important links to public health concerns<sup>7</sup>. These impacts in turn may have serious negative consequences for economic sectors such as tourism.

The information upon which this Summary has been prepared comes from the reporting exercise in the context of Article 15 of the Directive. To this end, a questionnaire was sent out to all EU-27 Member States, which were asked to provide data for the reference year 2007 (or 2008 if available). The questionnaire had been jointly developed by Commission and Member States taking into account the principles of the Water Information System for Europe (WISE)<sup>8</sup>. Replies received in the agreed format by 30 June 2010 were taken into account.<sup>9</sup>

This Summary describes the progress in the implementation of the Directive. It provides information as regards the obligations which were due to be met by the end of 2007/2008. In addition to the summary, the annex provides more details on the level of compliance in the Member States as well as information related to “big cities/big dischargers<sup>10</sup>”, and to the

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<sup>1</sup> Directive 91/271/EEC, OJ L135 of 30.5.1991

<sup>2</sup> For more details on the scope, objectives and provisions of the Directive, see: [http://ec.europa.eu/environment/water/water-urbanwaste/index\\_en.html](http://ec.europa.eu/environment/water/water-urbanwaste/index_en.html)

<sup>3</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.

<sup>4</sup> 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), OJ L164, 25.6.2008

<sup>5</sup> Source: EUROSTAT.

<sup>6</sup> Eutrophication means the “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>7</sup> For more details: EEA (2010): The European Environment – State and Outlook 2010 – Freshwater Quality.

<sup>8</sup> <http://www.water.europa.eu>.

<sup>9</sup> A detailed technical assessment and analysis of the data Reported by Member States, is available under [http://ec.europa.eu/environment/water/index\\_en.htm](http://ec.europa.eu/environment/water/index_en.htm).

<sup>10</sup> “Big cities/big dischargers” are “agglomerations of at least 150,000 p.e., or clusters of agglomerations above such threshold.

progress in infrastructure in place. Furthermore, a study report<sup>11</sup> provides more detail and background information and data on which the summary is based on.

The United Kingdom did not provide a final dataset within agreed deadlines. It was not possible to validate the data in time and compare it to other Member States. Therefore, this assessment can only cover 26 Member States, although you can find the expressions “EU-15” and “EU-12” as commonly used terms. Even if a complementary national assessment covering the United Kingdom is not foreseen, the data can be used for the analysis with WISE (Water Information System for Europe) as a gateway to provide information on European water issues. Within WISE a special viewer for data reported on wastewater comprises a wide range of data and information to serve the public and several stakeholders.

## 2. OVERALL ASSESSMENT

The overall assessment consists of the description, mostly by means of numerical values, of the key concepts in the Directive (in the below sub-chapters) which have been reported by the MS (figures are summarised and grouped by ranges), in order to provide an overview but most of all "key messages" related to the status of implementation in 2007/2008.

For the reference year 2007/2008, Member States reported 22,626 agglomerations (72% in EU-15 and 28% in EU-12) larger than 2,000 p.e., generating a total pollution load of around 550 million p.e.

### **Agglomeration:**

area where the population and/or economic activities are sufficiently concentrated for urban waste water to be collected and conducted to an urban waste water treatment plant or to a final discharge point. Agglomerations do not necessarily coincide with administrative units, such as municipalities.

A breakdown taking into account the different size ranges shows that:

- 2% of the agglomerations are larger than 150,000 p.e. (i.e. 586 big cities/big discharges), generating 43% of the pollution load (equivalent to around 248 million p.e.).
- 32% of the agglomerations range between 10,000 and 150,000 p.e., generating 45% of the pollution load.
- 66% of agglomerations range between 2,000 and 10,000 p.e., generating 12% of the pollution load.

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<sup>11</sup> 6<sup>th</sup> UWWTD Implementation Report. Technical assessment of information on the implementation of Council Directive 91/271/EEC of 21 May 1991 concerning Urban Waste Water Treatment as amended by Commission Directive 98/15/EC of 27 February 1998. [http://ec.europa.eu/environment/water/water-urbanwaste/implementation/pdf/Final\\_6th%20UWWTD%20Implementation%20Report.pdf](http://ec.europa.eu/environment/water/water-urbanwaste/implementation/pdf/Final_6th%20UWWTD%20Implementation%20Report.pdf) (Situation as of 31 December 2007 or 31 December 2008)

**Pollution load:**

organic biodegradable load in the urban waste water of an agglomeration, which is expressed in the unit "population equivalents" (p.e.), concept which takes into account the load generated by the resident population, the non-resident population (tourists etc.), and the industries covered by Art.11 of the Directive.

These agglomerations are located either in "normal areas" for which secondary treatment is required, or in sensitive areas or their relevant catchments, where more stringent treatment is required according to Article 5 of the Directive. For now, 72.78% of EU-27 territory is considered sensitive.

The assessment requires a different approach for different groups of EU Member States. For 15 Member States<sup>12</sup> (hereinafter referred to as EU-15) all deadlines in the Directive have expired. Therefore proper waste water collection and treatment has to be in place for all agglomerations within the scope of the Directive. For the other EU Member States, (hereinafter referred to as EU-12)<sup>13</sup>, transitional periods were granted by their Accession Treaties. None of these transitional periods exceed the year 2015 except for some small agglomerations (less than 10,000 p.e.) in Romania, which have to comply by the end of 2018. Certain interim deadlines expired in CZ, MT, PO, SK and LT by the end of 2007/2008. Seven Member States (BG, CY, EE, HU, LV, RO and SI) still have pending interim deadlines and, for that reason, their compliance has not been assessed in this Summary.

As explained above, United Kingdom is not covered by this assessment; however, and based on the data received after the deadline, the figures for EU-27 in the reference year 2007/2008 (taking United Kingdom into account) would change as follows: there are 24,421 agglomerations in EU-27 (74% in EU-15 and 26% in EU-12) larger than 2000 p.e., which generate a total pollution load of around 620 million p.e.; the total number of big cities/big dischargers is 670.

## **2.1. Main requirements of the Directive**

The main requirements of the Directive are described in articles 3, 4 and 5.

- Under Article 3 of the Directive, Member States shall ensure that all agglomerations with a population equivalent (p.e.) of more than 2,000 are provided with collecting systems for urban waste water. These collecting systems shall satisfy the requirements of Annex I A (on design, construction and maintenance). The deadline for compliance is end of 2005 for EU-15; several different deadlines apply for EU-12, depending on their respective Accession Treaties
- Under Article 4 of the Directive, Member States shall ensure that urban waste water entering collecting systems, before discharge, is subject to secondary treatment or an

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<sup>12</sup> EU-15 refers to Member States which joined the EU before the 2004 enlargement: Austria, Belgium, Denmark, Germany, France, Finland, Greece, Ireland, Italy, Luxemburg, Portugal, Spain, Sweden, The Netherlands and United Kingdom; however it should be noted that, on what regards this Summary, EU-15 does not cover United Kingdom, referring therefore to 14 Member States only.

<sup>13</sup> EU-12 refers to Member States who acceded to the EU in 2004 and 2007 enlargements: Czech Republic, Cyprus, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, Slovenia, Bulgaria and Romania.

equivalent treatment. These discharges shall satisfy the relevant requirements of Annex I B (referred to certain parameters – BOD5, COD- whose concentrations are limited in the effluent). Article 4 is fully applicable in EU-15 since end of 2005, being in EU-12 as described for art 3

- Under Article 5 (2) and (3) of the Directive, Member States shall ensure that urban waste water entering collecting systems, before discharge into sensitive areas, is subject to more stringent treatment than that described in Article 4, by 31 December 1998 at the latest for all discharges from agglomerations of more than 10,000 p.e. The treatment plants must satisfy the relevant requirements of Annex I B (mainly referred to concentrations in the effluent of Nitrogen and/or Phosphorus).

Under Article 5 (4) of the Directive, requirements for individual plants set out in Article 5 (2) and (3) need not to apply in sensitive areas under certain conditions of global load reduction in the relevant areas.

Deadlines for implementation of art 5 in EU-12 Member States are indicated and described in their respective Accession Treaties

## 2.2. Collecting systems

**Key message: Collecting systems showed a very high level of compliance in EU-15 and slightly increased compliance for some EU-12 Member States.**

Waste water collecting systems were in place for 99% of the total polluting load of EU-15 and for 65% of the total generated load of EU-12. Most EU-15 Member States had largely implemented this provision except for IT and EL which have 93% and 87% of generated load collected in collecting systems, respectively. For EU-12, BG, SK and SI had a share between 70 to 80%, all other new Member States have a share of around 80% and MT 100% of the generated load collected in collecting systems. Only CY and RO had only around 50% of their load collected in a collecting system.

## 2.3. Secondary treatment

**Key message: For secondary treatment installations, there are no big changes in overall assessment for EU-15 but improvements for EU-12 Member States. However, not all installations work adequately to achieve compliance.**

Secondary treatment was in place for 96% of the load for EU-15 and for 48% of the load for EU-12. As the infrastructure in place cannot always achieve quality standards in line with the Directive's requirements (possible reasons: inadequate capacity, performance or design etc), 89% of the total generated load for EU-15 and 39% of the total generated load for EU-12 were reported to work adequately showing compliant monitoring results for secondary and more stringent treatment respectively.

## 2.4. More stringent treatment

**Key message: Big variations among Member States existed in relation to more stringent treatment installations but there were improvements for some EU-15 and EU-12 Member States.**

More stringent treatment was in place for 89% of the load for EU-15 and for 27% of the generated load for EU-12. As the infrastructure in place cannot always achieve quality standards in line with the Directive's requirements (same reasons as for secondary treatment), 79% of the total generated load for EU-15 and 24% of the total generated load for EU-12 were reported to work adequately.

In summary, charts 1a (EU-15) and 1b (EU-12) illustrate the waste water infrastructure in place in 2007/2008.

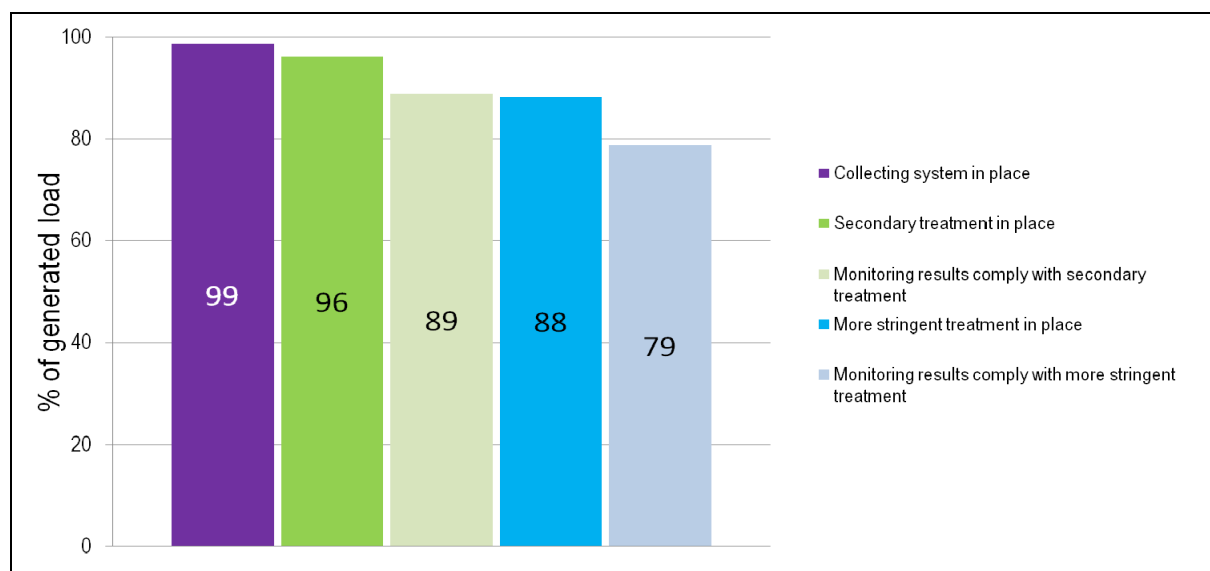


Chart 1a: Average share of generated load collected in collecting systems, treated by secondary treatment and more stringent treatment for EU-15.

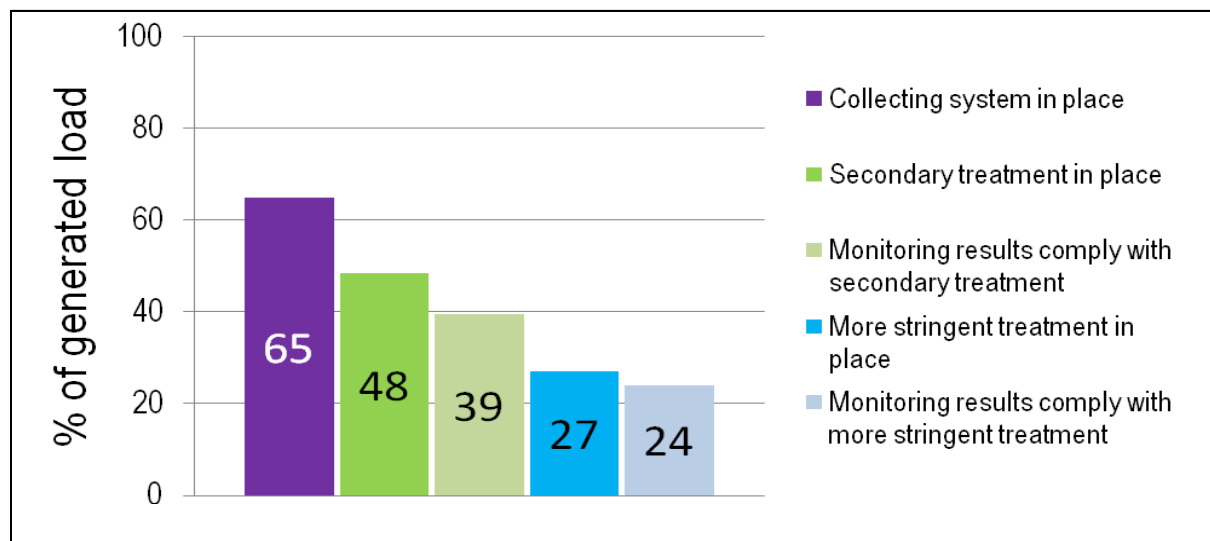


Chart 1b: Average share of generated load collected in collecting systems, treated by secondary treatment and more stringent treatment for EU-12.

## 2.5. Big cities

**Key message: Waste water treatment in big cities/big discharges well advanced but some big cities still without adequate treatment.**



More stringent treatment installations were already in place for 77.3% of the total generated load of big cities. 12% of the total generated load is treated with secondary treatment only, 1.2% with primary treatment only and 5.7% of the total generated load was collected, but not treated. 2.0% of the total generated load was treated in individual appropriate systems and for 1.8% of the total generated load of big cities collecting waste water systems were absent.

Some big cities/big dischargers were still without treatment (Costa do Estoril (PT)<sup>14</sup>, Barreiro/Moita (PT), Bucharest, Braila, Craiova and Galati (RO)) or primary treatment only (Frejus (FR), Trieste (IT), Kaunas (LT), Matosinhos (PT), Ploiesti (RO), Timisoara (RO)). To note, deadlines for compliance had expired in all the above-mentioned cases, except for Romania.

In summary, chart 2 illustrates the waste water treatment in big cities / big dischargers in place in 2007/2008.

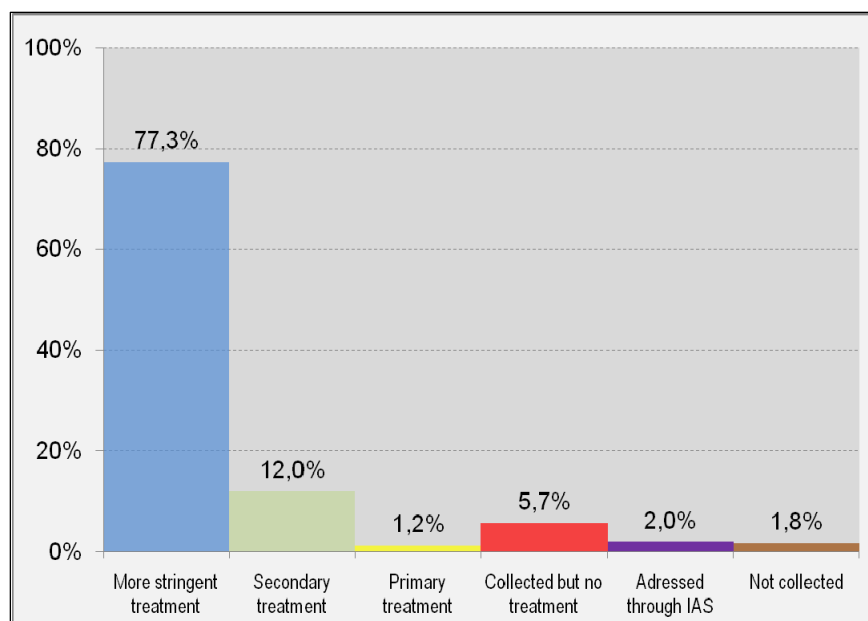


Chart 2: Waste water treatment of big cities/ big dischargers > 150,000 p.e. located in different receiving areas in EU-27 (loads per treatment category in % of total generated load).

## 2.6. Sensitive areas

**Key message: The share of sensitive areas increased by nearly 5%.**

Since the publication of the 4<sup>th</sup> Implementation Summary, many Member States reviewed their list of sensitive areas and their catchment areas as well as the reasons for their designation and also the extent of existing sensitive areas. Consequently, this reporting exercise has again compiled the geographical information for all the aforementioned designated sensitive areas and their catchment areas including the reason and date of designation.

<sup>14</sup> Improved from no treatment to primary treatment since last report (cf. Commission Decision 2001/720/EC of 8.10.2001, OJ L269 of 10.10.2001).

As a result, a total of 72.8% of EU-27 territory was identified as sensitive area/catchment of sensitive area and therefore requires more stringent treatment (cf. Article 5 of the Directive). The territory of sensitive areas in EU-27 increased by 4.8% compared to the last Implementation Summary.

*Sensitive area: water body where further treatment than that prescribed in article 4 of the UWWTD is necessary either because it is eutrophic or at risk of becoming eutrophic in the near future, or because such treatment is necessary to fulfil other Council Directive(s)*

## 2.7. Reporting process

**Key message: Member States responded well to the reporting process using the Water Information System for Europe (WISE) and data quality improved. However, some inconsistencies and errors were found in datasets of several Member States leading to an overall delay in finalising the assessment.**

12 Member States provided their final data submission before 30 April 2010, a further 14 Member States managed to send a final dataset by 30 June 2010. This meant that reports could be assessed from 26 Member States in comparison to only 18 Member States in the 5<sup>th</sup> Implementation Summary. All EU-12 Member States reported in time and in the agreed format. Many Member States put significant effort into the reporting exercise. They improved their national reporting systems over the past years and invested significant efforts in complying with the jointly agreed new reporting formats taking into account the principles of WISE. The result was that the quality of data was considerably enhanced in comparison to the previous reporting exercises.

Amendments and technical corrections of several datasets were nevertheless required in order to fit into the agreed format, entailing several re-submissions and corrections rounds with Member States concerned. For some Member States, errors and inconsistencies in the datasets affected the results of waste water treatment infrastructure and the assessment of their compliance.

WISE is a web-based service for public use, which provides water related information (from inland waters to marine), such as: information related to EU Water Policies (Directives, Implementation Reports), or to a number of data and themes (reported datasets, interactive maps, statistics, indicators etc). WISE is a partnership between the European Commission (DG Environment, Joint Research Centre and Eurostat) and the European Environment Agency.

## 3. COMPLIANCE OVERVIEW

The chapter on compliance is addressed to summarise and classify by ranges the compliance rates for articles 3, 4 and 5 of the Directive, at MS level (mainly showing the highest and lowest values), and also to reflect the most relevant increases and decreases in such rates as when compared with the previous Report.

The level of compliance was very varied for different Member States and with regard to the different provisions of the Directive.

For Article 3 of the Directive (on collecting systems), assessment of data yields the following results:

- Compliance is reported as 100% for Austria, Czech Republic, Denmark, Finland, France, Germany, Greece, Ireland, Luxembourg, Malta, Netherlands and Sweden.
- Compliance is reported as between 97 to 70% for Spain (97%), Portugal (88%), Italy (84%) and Belgium (70%).
- Lower compliance rates are reported for Poland (66%) and Slovakia (43%).

Beside the decrease of compliance for BE (minus 27.9%)<sup>15</sup> and for SK (minus 50.7%)<sup>16</sup>, the compliance rates for Article 3 in % of the subjected load do not show any major changes in comparison to the previous reporting round.

Compliance with article 3 is calculated at agglomeration level and not at the level of the total generated load; consequently, it is feasible that a relatively high rate of adequately collected load in a MS does not match with a situation of compliance by a high number of agglomerations, and the rate of agglomerations in compliance might be much lower than the total rate of load in compliance

For Article 4 of the Directive (on secondary treatment), the assessment of the data leads to the following conclusions:

- Compliance is reported as more than 96% of the load in Austria, Denmark, Finland, Germany, Greece, Netherlands and Sweden.
- Compliance is reported as between 83 and 56% in a range of Member States, e.g. Spain (83%), Belgium (65%), France (64%), Italy (58%) and Luxembourg (56%),
- Lower compliance rates are reported for Portugal (36%) and Ireland (21%).
- Compliance within the group of EU-12 Member States varies, e.g. Czech Republic (11%), Lithuania (87%), Malta (13%), Poland (58%), and Slovakia 23%.

In comparison to the 5<sup>th</sup> Summary Report, improved compliance with secondary treatment requirements were seen for FIN (11.66%) whereas a decrease in compliance was assessed for LU (minus 38.60%)<sup>17</sup> and SK (minus 30.8%)<sup>18</sup>, a small decrease for PT (minus 5.30%)<sup>19</sup>.

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<sup>15</sup> There are a significant number of agglomerations that, even being equipped with collecting system, are considered not compliant with art 3 as a whole, because there is a relevant percentage of their load which is neither collected nor addressed via IAS (individual systems or other appropriate systems which reach the same level of environmental protection). It should be noted that some Member States may have a different opinion on the compliance criteria.

<sup>16</sup> There is a decrease in the number of agglomerations compliant with art 3 (compared to the 5th Report), together with additional obligations of compliance with art 3 of the Directive, related to the expired interim deadline 31/12/08

<sup>17</sup> The agglomeration "Luxembourg", the biggest in this MS, appears to be in breach of art 4 compared to the 5<sup>th</sup> Report: 5 treatment plants have been currently reported, two of them with non-compliant results at the end of 2008

<sup>18</sup> The obligations of compliance with art 4 have increased by the deadline 31/12/08; in addition to this, the load reported to be collected in collecting systems exceeded the reported load entering the

For Article 5 of the Directive (on more stringent treatment), data shows the following results:

- Compliance is reported as 100% of the load in Austria, Finland, Germany and Netherlands.
- Compliance is reported as between 94 and 74% in a range of other Member States, e.g. Denmark 94%, Greece 84% and Sweden 74%.
- Lower compliance rates are reported in Belgium (48%), France (56%), Italy (66%), Luxemburg (34%), Portugal (15%) and Spain (32%).
- Compliance within the group of EU-12 Member States varies, e.g. Czech Republic (11%), whilst Lithuania has already achieved 61%.

Compliance rates with more stringent treatment requirements increased for DK (6.18%), FI (66.30%), FR (14.50%), LU (6.79%) and SE (7.09%) in comparison to previous reporting data.

#### **4. COMPLIANCE PROMOTION AND INFRINGEMENTS**

To improve the level of compliance, the Commission invested significantly over the past years in relation to compliance promotion (pre-infringement action) and strict enforcement action targeted towards those EU-15 Member States which lagged behind in their implementation.

The details of relevant steps and outcomes of the legal procedures in the reference years of this report are presented in other EC Documents.<sup>20</sup>

During 2007, the Commission paid particular attention to the execution of Court of Justice rulings concerning the Urban Waste Water Treatment Directive. These rulings addressed the failure to sufficiently treat waste water from several agglomerations (e.g. Belgium, Luxembourg and United Kingdom) as well as for individual ones (Spain).

In 2008, the Commission's enforcement tasks focused on two areas:

- Ensuring full compliance with the Directive's obligation to designate all sensitive areas and the provision of more stringent treatment to discharges from agglomerations into these areas by 1998. This was the case for France, Ireland, Spain and Italy.
- Ensuring compliance with the deadline for the collection and secondary treatment obligations in the Directive for discharges from large towns and cities (end of year 2000). This was sought through actions directed against Ireland, Greece, Spain and France.

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connected UWWTP(s) for a number of agglomerations, and information on treatment type and related monitoring results were not reported for other agglomerations.

<sup>19</sup> Load in compliance with art 4 has decreased from 4.4 Mp.e. to 3.9 Mp.e.

<sup>20</sup> Annual reports on national implementation of EU law 2007 and 2008, at [http://ec.europa.eu/eu\\_law/infringements/infringements\\_annual\\_report\\_en.htm](http://ec.europa.eu/eu_law/infringements/infringements_annual_report_en.htm)

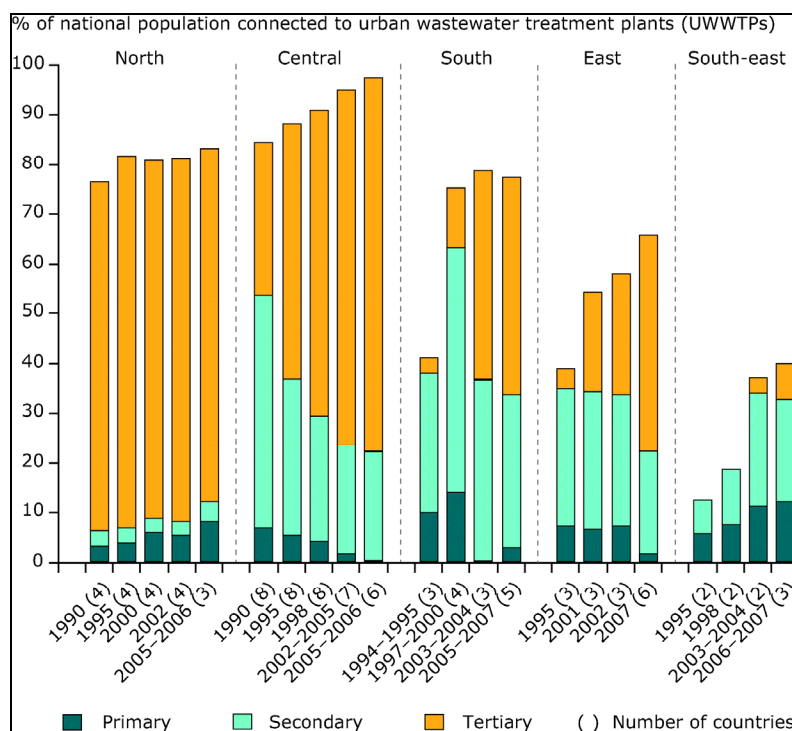
The past and ongoing compliance actions are likely to ensure that the existing compliance gaps for EU-15 will be closed over the coming years. For EU-12, no infringements are ongoing but several initiatives to support the implementation, like EC funded workshops aimed to identify and address the main barriers for the implementation of EU legislation on waste water and drinking water. However, there are indications that, once the transitional periods expire, the implementation gap will still be significant and the possibility of serious delays similar to those experienced in the EU-15 will occur. The Commission will have to consider appropriate action building on the lessons learnt from the implementation action for EU-15.

## **5. PROGRESS AND ACHIEVEMENTS**

In order to determine the progress made in recent years, a comparison was made for those Member States of EU-15 (AT, BE, DK, FI, FR, DE, LU, NL, PT and SE) and EU-12 (CY, EE, HU, LT, RO, SK and SI), which have provided data for the 5<sup>th</sup> and for the 6<sup>th</sup> Implementation Summary. Overall, the differences identified were small. In particular, the following changes were found:

- Collecting systems compliance decreased slightly (0.5%) but remained at high levels for EU-15 (10 Member States reached 100% of compliance) whereas the average share of collecting systems in place for EU-12 Member States increased by 1.8% of the total generated load
- secondary treatment installations improved (increase of load addressed though secondary treatment) for 1.1% of the total generated load of EU-15 Member States, while it downgraded by 2.3% of the total generated load for EU-12, but showing a considerable improvement of the monitoring results (i.e. achieving the quality standards in line with the Directive, due to a better performance of the treatment installations) by 4.2%. More stringent treatment installations increased by 7.1% for the total generated load for EU-15, respectively 0.3% for EU-12.

The European Commission has published six reports on the implementation of the Directive. After 20 years, it can be noted that the wastewater treatment situation in Europe has improved significantly. There is still a lot of work to do though. Only Austria, Denmark and Germany fully comply with the directive and the rest of Member States failed to meet at least one implementation deadline.



North: Norway, Sweden, Finland and Iceland

South: Cyprus, Greece, France, Malta, Spain and Portugal

Central: Austria, Denmark, England and Wales, Scotland, Netherlands, Germany, Switzerland, Luxembourg, Ireland

East: Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovenia, Slovakia

South-east: Bulgaria, Romania, Turkey

N.B. The chart reflects results corresponding to EU-27 (UK not included as such, but just England, Wales and Scotland), and also to Norway, Iceland, Switzerland and Turkey

*Table 1: Regional variation in wastewater treatment between 1990 and 2007*  
<http://www.eea.europa.eu/data-and-maps/indicators/urban-waste-water-treatment/urban-waste-water-treatment-assessment-2>

Nevertheless, the achievements are already positive. Especially the considerable increase in the connection rate to sewers and wastewater treatment plants gives a considerable boost for the protection of the environment (see table 1). During the period 1985-2005, the Urban Waste Water Treatment Directive has been successful in decreasing nitrogen and phosphorus emissions.<sup>21</sup>

As waste water from urban resources represents one of the most significant pollution impacts on the aquatic environment, the successful implementation of the Urban Waste Water Treatment Directive has already had and will continue to have a significantly influence on the water quality in all EU Member States and thereby the successful implementation of the Water Framework Directive.

<sup>21</sup> As shown in the second report of the project FATE (Fate of Agrochemicals in Terrestrial Ecosystems), <http://publications.jrc.ec.europa.eu/repository/handle/111111111/15938>

## 6. FINANCING THE IMPLEMENTATION OF THE URBAN WASTE WATER TREATMENT DIRECTIVE

The implementation of the Directive represents a major financial challenge for the Member States. In this regard the Cohesion Policy provides significant support for the co-financing of waste water treatment plants and collecting systems infrastructure in the EU. In the current funding period 2007 to 2013, the planned investments into infrastructure related to collection or treatment of waste water will amount to about 14 billion EUR. Twenty-one Member States have allocated Cohesion policy funding to waste water treatment, the biggest share (about 98%) being used in the 'Convergence regions' (mostly EU-12 and DE, IT, PT, ES and EL) (see Annex 1). A recent study has provided a useful overview of remaining investment costs before full compliance with the UWWTD is achieved in all Member States<sup>22</sup>. Also other EU institutions play an important role. The European Investment Bank (EIB), for instance, signed financing contracts for 5,5 B€ in 2007 and 2008, in the field "water, sewerage and solid waste."<sup>23</sup>

In this framework a report by the European Court of Auditors on the effectiveness of structural measures spending on waste water treatment for the 1994-99 and 2000-06 programme periods<sup>24</sup> concluded that *"in general, Structural Measures have contributed to an improvement in waste water treatment in the four Member States audited"*. The report provides other useful information on the use and effectiveness of Cohesion and Structural funds into waste water such as the following table<sup>25</sup> which underlines the central role of those funds in the four audited Member States (Greece, Ireland, Portugal and Spain) as regards the development of waste water treatment.

Another recent study<sup>26</sup> provides an insight into the further financial needs in particular in assessing potential 'financing gaps'. Beyond the sole financial needs for ensuring initial compliance with the Directive, this study points at the significant costs linked to the need for renovation / rehabilitation of the entire existing infrastructure, i.e. the rolling costs of maintaining the infrastructures.

*Table 2: Evolution of the percentage of population of urban agglomerations served by treatment plants providing secondary treatment (European Court of Auditors, Special Report No 3, 2009)*

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<sup>22</sup> Study "Cost of compliance for the implementation of the Urban Waste Water Treatment Directive", September 2010, COWI. [http://ec.europa.eu/environment/water/water-urbanwaste/info/pdf/Cost%20of%20UWWTD-Final%20report\\_2010.pdf](http://ec.europa.eu/environment/water/water-urbanwaste/info/pdf/Cost%20of%20UWWTD-Final%20report_2010.pdf)

<sup>23</sup> <http://eib.europa.eu/projects/loans/sectors/water,-sewerage.htm?lang=-en>

<sup>24</sup> European Court of Auditors, Special Report No 3, 2009, <http://eca.europa.eu/portal/pls/portal/docs/1/8038856.PDF>

<sup>25</sup> European Court of Auditors, Special Report No 3, 2009, Table 1

<sup>26</sup> Study "Cost of compliance for the implementation of the Urban Waste Water Treatment Directive", September 2010, COWI for the European Commission

Member State	Start of 1994–99 programme period	End of 2000–06 programme period
Ireland <sup>1</sup>	20 % (1994)	87 % (2006)
Spain <sup>2</sup>	41 % (1995)	77 % (2005)
Portugal <sup>3</sup>	32 % (1994)	80 % (2006)
Greece <sup>4</sup>	< 20 % (1994)	85 % (2005)

<sup>1</sup> Environmental Protection Agency (EPA) — Office of Environmental Enforcement, Urban Waste Water Discharges in Ireland — Reports for the Years 2002–03 and 2004–05. 2006 figures provided by Department of the Environment, Heritage and Local Government.  
<sup>2</sup> For 1995 data, report prepared according to Article 16 of the Urban Waste Water Treatment Directive, sent by Spain to the Commission (October 2004) and, for 2005, estimate received from the Ministry of the Environment.  
<sup>3</sup> Strategic Plan for Water and Waste Water Treatment (2007–13).  
<sup>4</sup> Ministry of Environment — Central Water Agency estimate.

## 7. CONCLUSIONS AND OUTLOOK

Twenty years after the adoption of the Urban Wastewater Treatment Directive (91/271/EEC), considerable progress has been made in its implementation. However, the analysis of the reported data from 2007/2008 shows that significant challenges remain.

As regards the improvements, the following conclusions can be drawn:

- EU-15 Member States have maintained their overall high level of compliance already achieved in the 5<sup>th</sup> Implementation Summary for collection and for secondary treatment, and have substantially improved on more stringent treatment.
- EU-12 Member States have improved their overall compliance compared with the previous Implementation Summary both on collection and treatment (secondary and more stringent treatment); data are now available for all EU-12 Member States, with CY, EE, HU, LT and SI in particular having shown considerable improvements in their achievement of one or more of the Directives' requirements.
- Reporting notably improved since the previous Implementation Summary with the introduction of the Water Information System for Europe (WISE); Member States have made progress on their national reporting systems and fully apply the new reporting formats, according to WISE principles. This is reflected in the fact that the current Summary covers 26 Member States, whilst only 18 Member States were covered by the 5<sup>th</sup> Implementation Summary.

Despite the progress made between the issuing of the 5<sup>th</sup> and 6<sup>th</sup> Implementation Summary, there are a number of challenges ahead, in particular:



- Some EU-15 Member States still require big efforts to improve their compliance rates on collecting systems and/or treatment (secondary and/or more stringent), e.g. BE, PT, LU, IT, IE. The Commission is aware that in many cases these Member States have already taken steps towards achieving a better level of implementation during the last years, and as a consequence better results will be expected for the next Summary (reporting for the reference years 2009/2010 currently ongoing).
- Continuing efforts will be required in EU-12 Member States, as some of them have compliance rates below 50% for collection or treatment; these increased efforts in compliance will figure in the next Summary, as the deadlines in the Accession Treaties will have expired. Efforts on investments by EU-12 Member State are expected to have continued during the last two years, and beyond if necessary.
- A small number of EU-12 and EU-15 Member States show (compared to the 5th Summary) certain decreases, in terms of compliant monitoring results, some installations being downgraded or to a smaller extent reported load missing in individual agglomerations. Such developments are to be remediated as soon as possible.

Ongoing proactive and collaborative work with member States complemented by appropriate enforcement action will contribute to an improved implementation of the Directive.

The implementation of the Urban Waste Water Treatment Directive requires significant investments, probably the most substantial in the environmental sector, due to its requirement for providing waste water treatment infrastructure for urban areas. As it is not obligatory for Member States to provide information on their investments, the data received by the Commission could not be sufficiently representative. However, the European Commission study on “investment and employment related to EU policy on air, water and waste” (2000), estimates that about 152 billion Euro would be invested for waste water infrastructure over the period 1990-2010.

When considering the implementation of the Directive and all the necessary investments it is important to keep in mind that the European Union consists of different Member States with a different cultural background, also reflected in the systems of water management and policies. One aspect of the Directive is the requirement for agglomerations larger than 2.000 population equivalents to provide a collecting system. It has often been interpreted as a strict requirement to connect to a sewer system even if existing on-site sanitation systems perform adequately and deliver appropriate treatment. For the future it has to be kept in mind that the costs to connect houses to sewers in rural areas with dispersed housing patterns is often very high and imposes a high financial burden on users. Intelligent technical solutions with an appropriate treatment and an acceptable cost-efficiency should be maintained to solve the difficult situation between investment and environmental requirements.

The content of this report will be taken into account in the review of water policies scheduled for completion in 2012.

## **6th Commission Summary on the Implementation of the Urban Waste Water Treatment Directive**

### **ANNEX: OVERVIEW ON WASTE WATER TREATMENT AT MEMBER STATE LEVEL**

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#### **1. INTRODUCTION**

The information in this Annex to the 6<sup>th</sup> Summary on the Implementation of the Directive describes the details of waste water collection and treatment at Member State level in the EU. The Annex refers not only to compliance with articles 3, 4 and 5 of the Directive, but also to infrastructure in place, concepts which do not have the same meaning and therefore are often associated to different values. With the purpose to also provide detailed visual information, the Annex contains a huge number of charts and maps

Through the information available in this Annex, comparisons between Member States are made on compliance and infrastructure; it is also shown the progress made since the 5<sup>th</sup> Report (improvement, worse results, and equal results).

An overview of the best available treatment at the level of big cities (all over the EU) is shown by pie charts as well.

Finally, maps at EU level reflect not only the levels of compliance with articles 3, 4 and 5 by ranges, but also the distribution of Sensitive Areas and their catchments.

It should be noted that this Annex is based on the contents of the 6<sup>th</sup> Implementation Report (2011), which reflects many other additional details and information, including specific country Reports<sup>27</sup>

## **2. IDENTIFICATION OF SENSITIVE AREAS AND CATCHMENT AREAS OF SENSITIVE AREAS**

The designation of sensitive areas is a crucial, first step in the implementation of the Directive, because the nature of the receiving water body defines the treatment requirements and the deadlines for compliance.<sup>28</sup>

The vast majority of sensitive areas are designated based on the eutrophication criteria<sup>29</sup> (Annex II of the Directive).

Within these areas or their relevant catchments, waste water has to receive more stringent treatment before it is discharged. Article 5 of the Directive foresees two options for compliance with such more stringent treatment

- either to ensure that all discharges from agglomerations of more than 10 000 p.e. meet the criteria for more stringent treatment (Article 5(2) and (3) of the Directive),
- or alternatively to ensure that the minimum percentage of reduction of the overall load entering all urban waste water treatment plants in that area is at least 75 % for total phosphorus and at least 75 % for total nitrogen (Article 5(4) of the Directive).

The identification and the designation of sensitive areas has been done in several different ways across the EU,

- 12 Member States have considered their entire territory as a sensitive area or as a relevant catchment of a sensitive area, and therefore apply Article 5(8) of the Directive: AT, CZ, DE, DK, EE, FIN, LT, LU, LV, NL, PL, RO. Out of those, 8 Member States also apply Article 5(2) and 5(3), while AT, DE, NL and PL apply Article 5(4).
- 3 Member States, BE, SK and SE, apply Article 5(2) and 5(3) and have identified all their water bodies as sensitive areas.
- The remaining 12 Member States have identified particular water bodies in their territory as sensitive areas or catchment of sensitive areas, and therefore apply Article 5(2) and 5(3) of the Directive: BG, CY, ES, FR, EL, HU, IE, IT, MT, PT, SI and UK.

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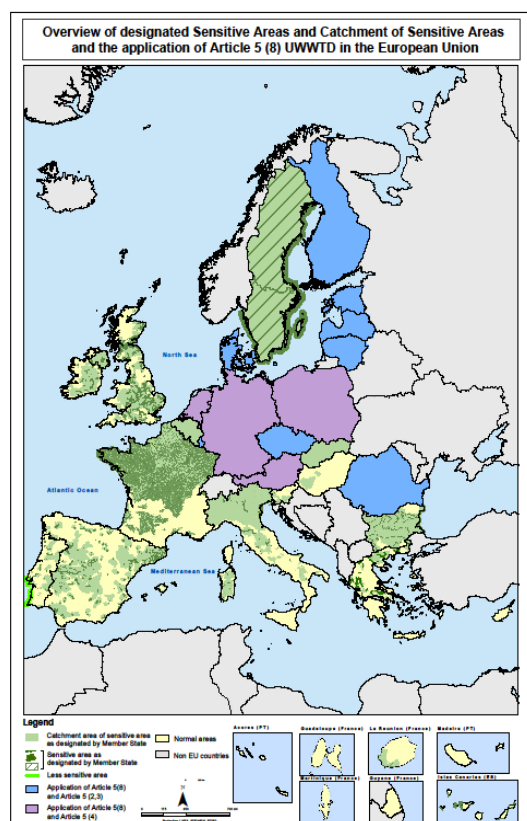
<sup>27</sup> [http://ec.europa.eu/environment/water/water-urbanwaste/implementation/pdf/Final\\_6th%20UWWTD%20Implementation%20Report.pdf](http://ec.europa.eu/environment/water/water-urbanwaste/implementation/pdf/Final_6th%20UWWTD%20Implementation%20Report.pdf)

<sup>28</sup> EU-15 compliance deadlines: 31.12.1998, different transitional periods in EU-12 Accession Treaties

<sup>29</sup> Eutrophication is defined in Article 2(11) “‘eutrophication’ means the 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”; Article 5 together with Annex II establish the obligation for more stringent treatment for “natural freshwater lakes, other freshwater bodies, estuaries and coastal waters which are found to be eutrophic or which in the near future may become eutrophic if protective action is not taken. “

Due to the fact that UK did not report their national dataset in time, UK has not been covered by the 6th Commission Summary.

Summarizing, 15 Member States apply Article 5 of the Directive to their entire territory or have designated all their water bodies as sensitive areas, whereas 12 Member States have identified particular water bodies in their territory as sensitive areas for which more stringent treatment requirements have to be implemented.

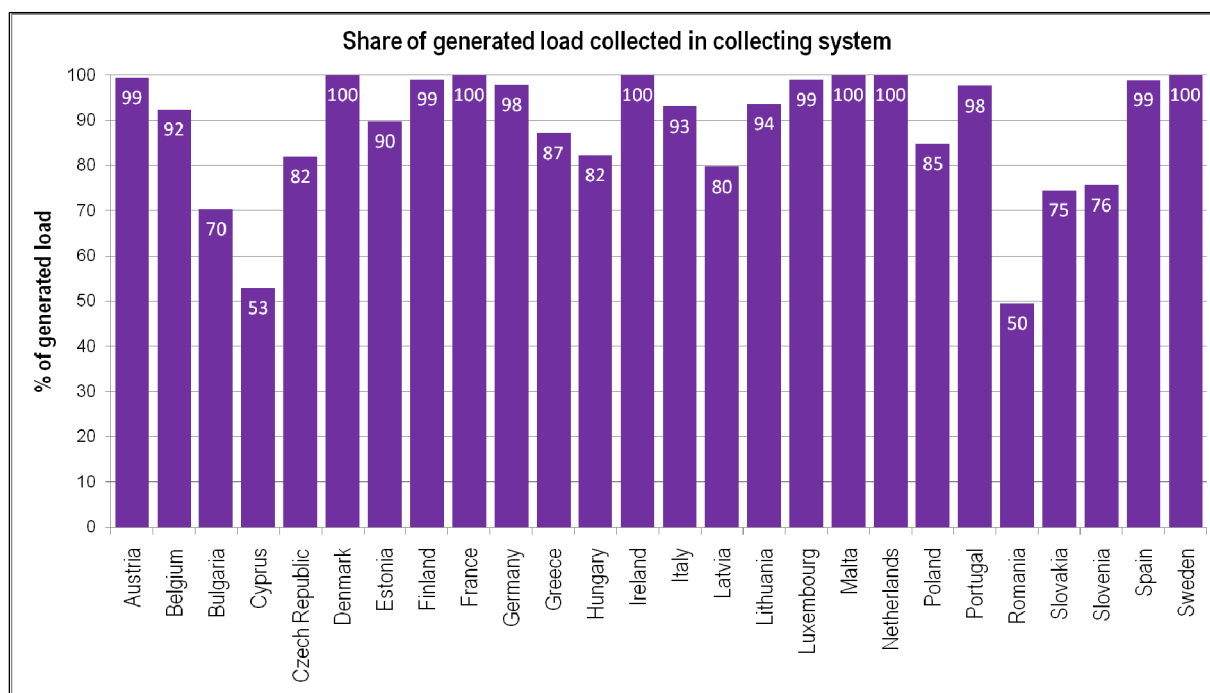


Picture 5: Overview of sensitive areas and catchment areas of sensitive areas in EU-27 (as reported by Member States) for reference year 31 December 2007 or 31 December 2008.

### 3. WASTE WATER INFRASTRUCTURE IN PLACE

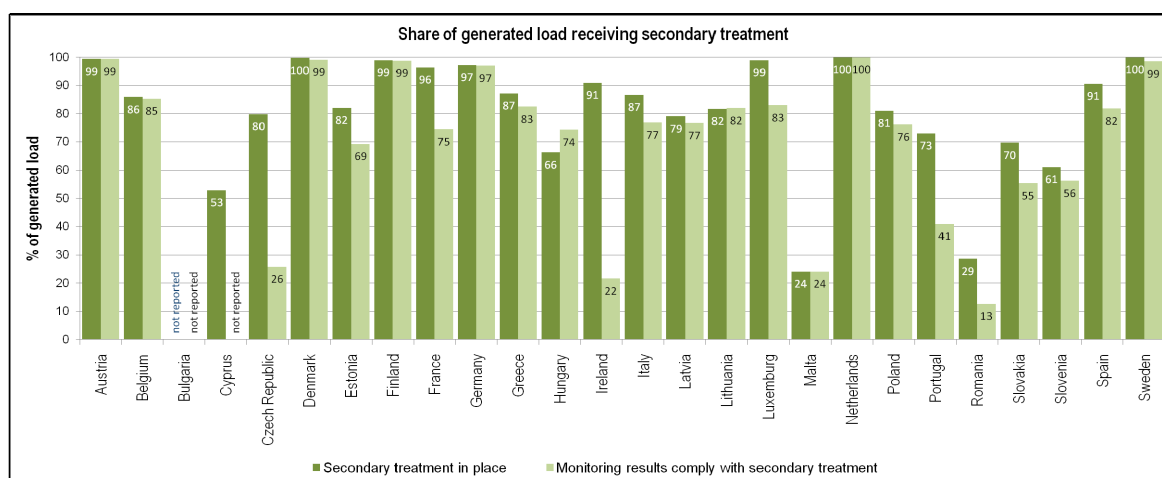
Pictures 6, 7 and 8 below show the rate of collecting systems and secondary and more stringent treatment in place as reported by Member States. They do not reflect actual compliance with requirements of the Directive (some plants-agglomerations are equipped with more stringent treatment although it is not specifically required and vice versa). The assessment of compliance with the legal provisions of the Directive will be presented in Chapter 4. of this Annex

The figures show that collection rate is higher than 97% in 12 Member States. IT reaches 93% and EL 87%. For EU-12 countries, MT reaches 100%, BG, SK and SI, range between 70 to 80%, all other EU-12 Member States have around 80%, and of the generated load collected in collecting systems. Only CY and RO have lower rates: only about 50% of their load is collected in a collecting system.



Picture 6: Share of total generated load (p.e.) collected in collecting system in EU-27.

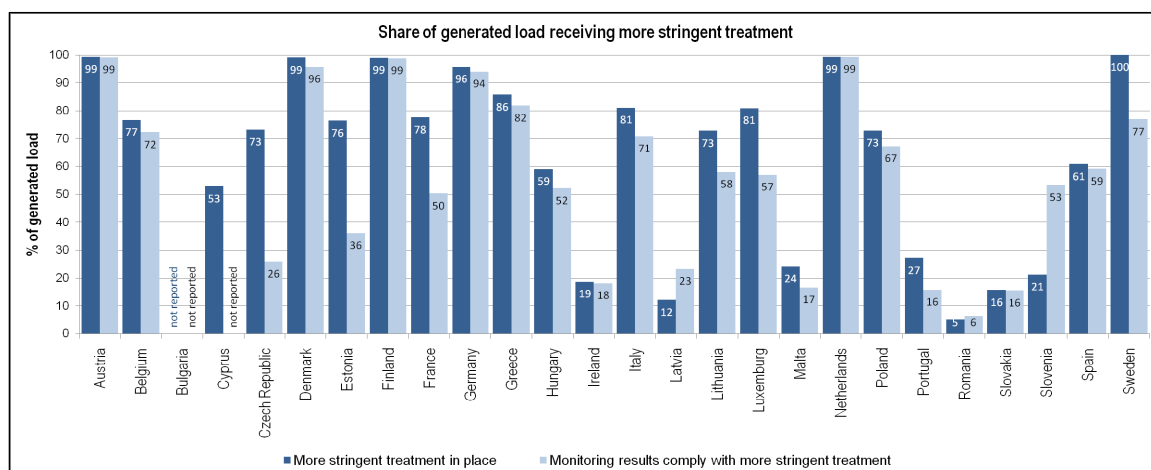
Within EU-15 AT, DK, FIN, NL and SE have installations whose monitoring results are compliant for more than 99% of their generated load. Within EU-12, around 80% of the load generated in EE, LV, LT and PL, is treated by secondary treatment.



Picture 7: Share of total generated load (p.e.) treated by secondary treatment (treatment installation in place, monitoring results comply with secondary treatment requirements).

AT, FIN and NL have installations in place whose monitoring results are compliant for more than 99% of their generated load. More than 59% of the generated load of HU, LT and PL receive more stringent treatment.

The infrastructure in place does not always meet the quality standards for the effluents, as defined by the Directive. An example of this is the following: around 70 to 80% of the total load is reported to work adequately showing compliant monitoring results for secondary treatment.



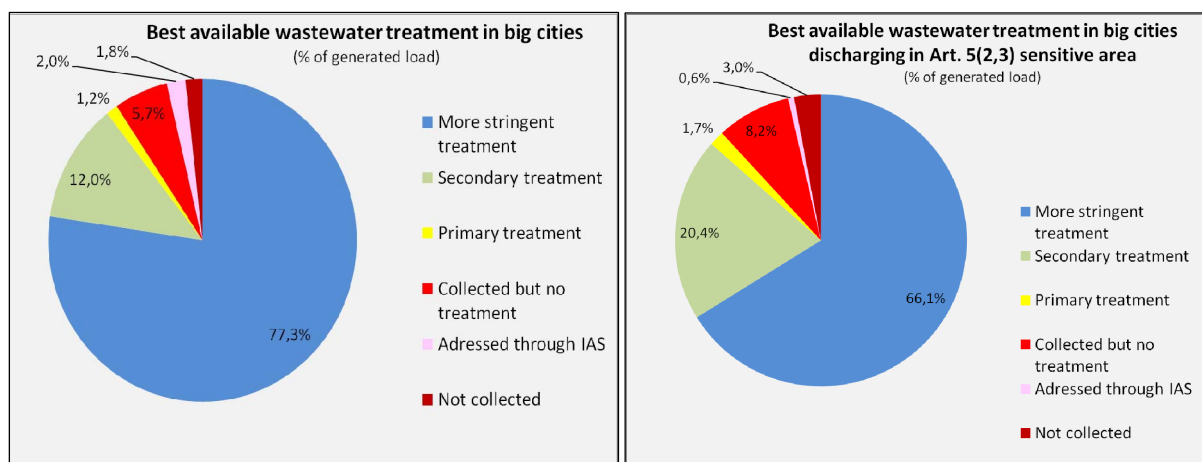
Picture 8: Share of total generated load (p.e.) treated by more stringent treatment (treatment installation in place, monitoring results comply with more stringent treatment requirements).

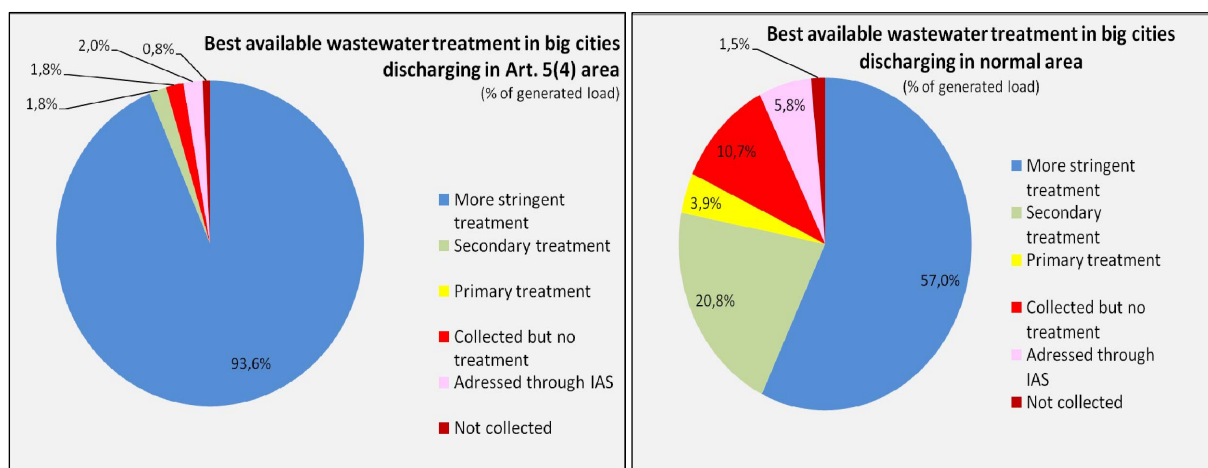
#### 4. BIG CITIES

Regarding sensitive areas, it is in the areas where Article 5(4) of the Directive is applied, where the highest rate (93.6%) of the total generated load receives more stringent treatment.

In areas where Article 5(2) and Article 5(3) are applied, 66.1% of the total generated load of big cities within receives more stringent treatment. 20.4% of the total load in these areas receives secondary treatment. 1.7% of the total load of all big cities discharging into these areas only applies primary treatment.

As regards discharges in normal areas, 57.0% of the total generated load of big cities receives more stringent treatment and 20.8% receives secondary treatment. 10.7% of the total generated load of big cities is collected but not treated.





Picture 9: Best available waste water treatment in EU-27 big cities (in % of total generated load) discharging into different receiving areas (Article 5(2,3) areas, Article 5(4) areas and normal areas).

As regards the big cities/big dischargers with low level of treatment, it should be remarked that::

- No treatment at all has been reported for: Barreiro/Moita in PT (170,000 p.e.); Braila (236,400 p.e.), Craiova (359,315 p.e.), Galati (450,000 p.e.) and Bucuresti (2,227,103 p.e.), in RO.
- Seven big cities/ big discharger were reported to apply primary treatment for the total or the majority of the generated load: Ploiesti, RO (336,601 p.e.), Timisoara, RO (367,676 p.e.), Frejus, FR (224,000 p.e.), Kaunas, LT (309,000 p.e.), Costa do Estoril, PT (797,700 p.e.),<sup>30</sup> Matosinhos, PT (287,000 p.e.) and Trieste, IT (299,377 p.e.).

Deadlines for compliance had expired in all the above-mentioned cases, except for Romania.

## 5. COMPLIANCE WITH THE REQUIREMENTS OF THE DIRECTIVE (MAPS AND CHARTS)

As a main principle of the assessment of compliance, an agglomeration is considered in compliance with the Directive if all waste water is collected and connected to treatment plants, and all the plants serving an agglomeration are compliant with the required treatment (complying treatment and monitoring results).

Art 3 of the Directive refers to collection of waste water by collecting systems; art 4 refers to biological treatment of collected waste water; article 5 refers to treatment of waste water more stringent than secondary treatment

For agglomerations with more than 2000 p.e. in EU-15, the final deadline for implementation of the Directive expired in 2005. For 7 EU-12 Member States, all or part of the transitional periods for the implementation had not expired yet by the reported year 2007/2008: BG, CY, EE, HU, LV, RO and SI.

For the assessment of compliance, the parameters determining the treatment requirements are:

<sup>30</sup> For Estoril a Derogation Decision under Article 8 of the Directive is in place, allowing for less stringent than secondary treatment: Commission Decision 2001/720/EC of 8.10.2001, OJ L269 of 10.10.2001

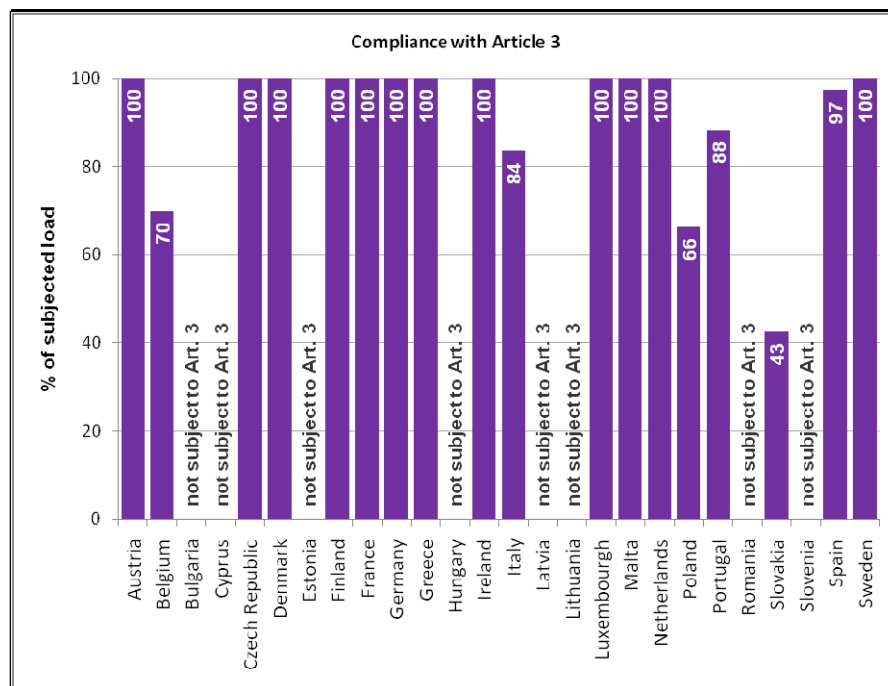
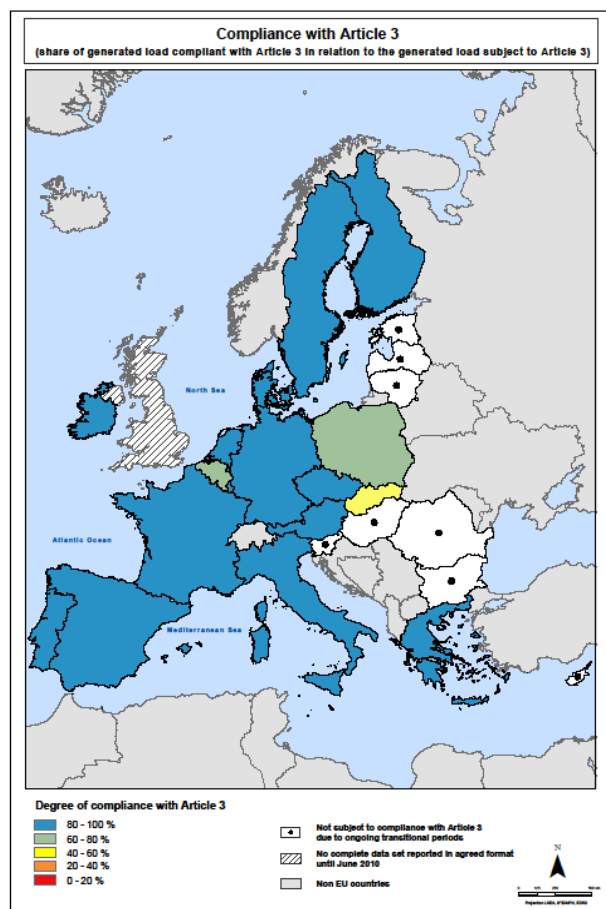
- Size of the agglomeration (p.e.)
- Deadline/transitional period to comply with the Directive for this agglomeration
- Type of receiving area (normal area, sensitive area)
- Date of designation/review of the receiving area
- Type of receiving water (freshwater, coastal water)

Compliance with articles 3, 4 and 5 respectively, is shown below:

- in maps which reflect the degree of compliance (by ranges) in different colours, from blue (highest degree) to red (lowest degree), also indicating the Member States not subject to compliance (not expired deadline), or not reported on time or in the agreed format
- in charts, which compare the percentage of compliance (by articles) in all EU Member states subject to

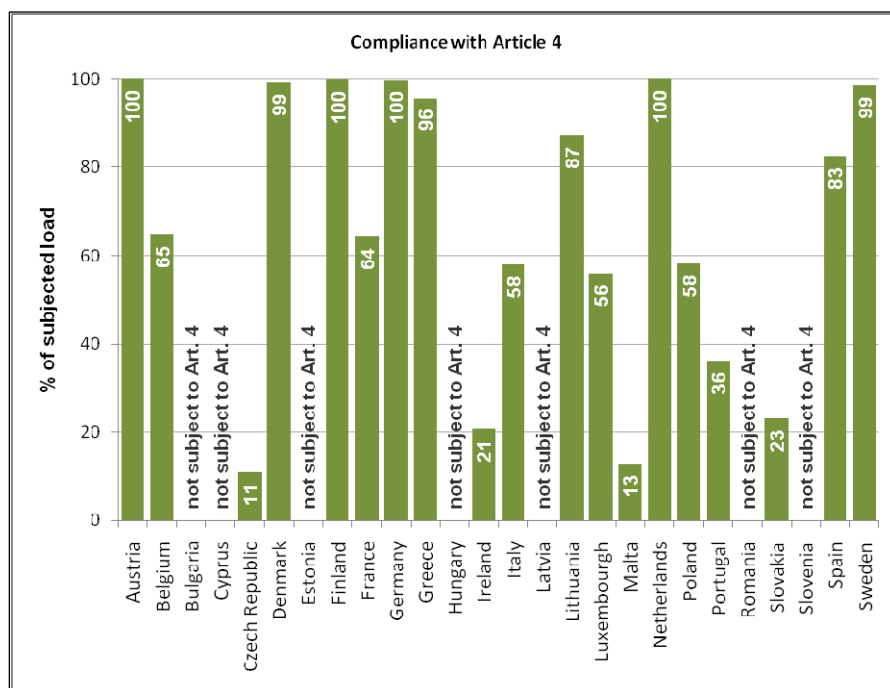
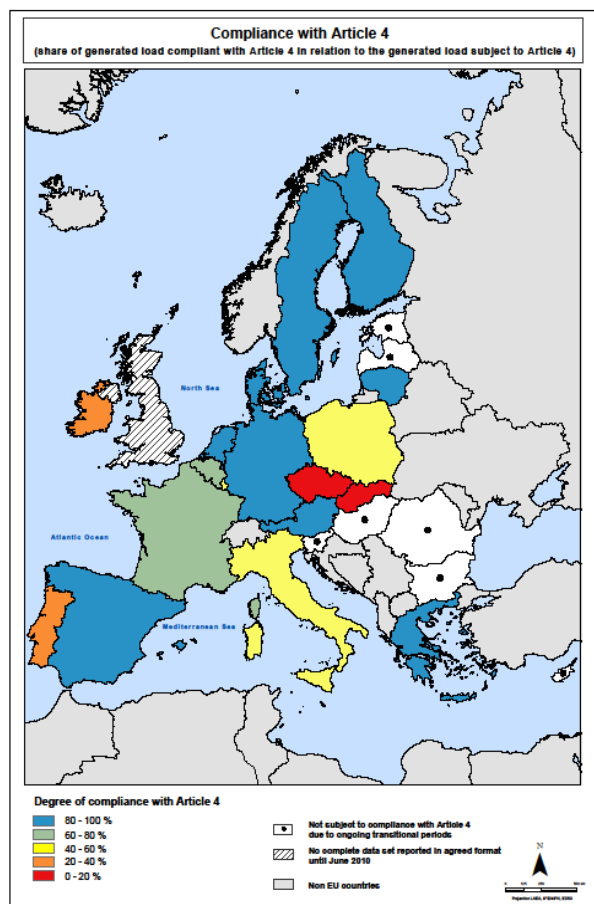


## 5.1. Compliance with article 3



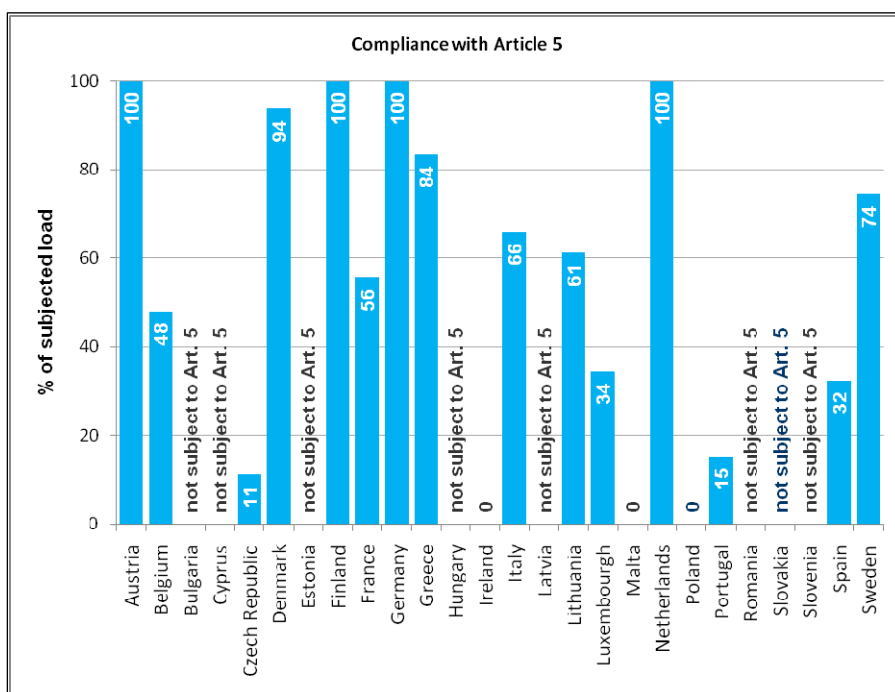
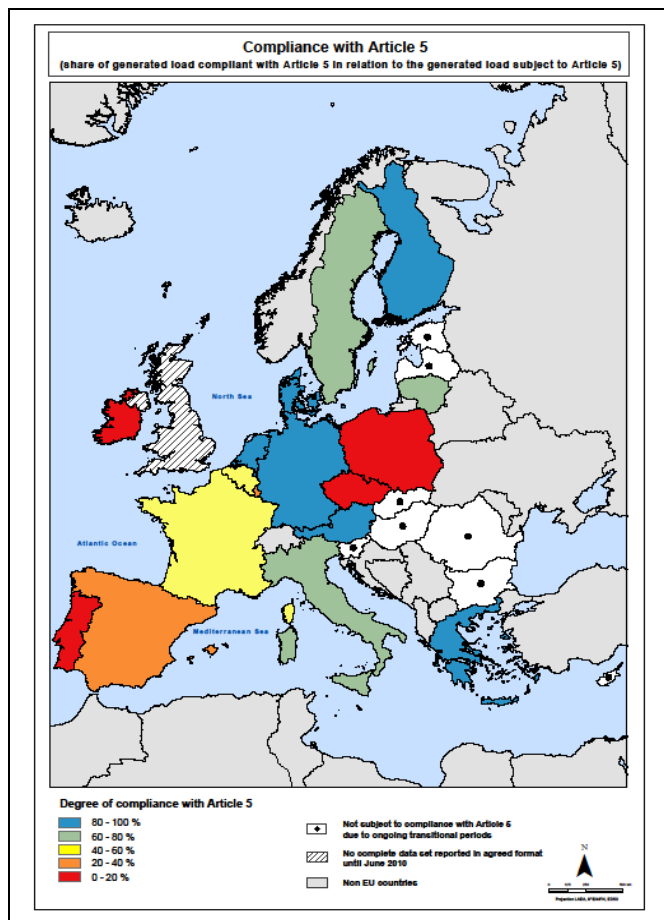
Picture 10: Assessment of compliance with Article 3 (in relation to the generated load subject to compliance with Article 3) for 18 Member State subject to compliance (i.e. deadlines to comply with the requirements of the Directive expired by the reference year of this Summary; “not subject to compliance” refers to those Member States with non-expired deadlines by the reference year of this Summary).

## 5.2. Compliance with article 4



Picture 11: Assessment of compliance with Article 4 (in relation to the generated load subject to compliance with Article 4) for 19 Member State subject to compliance (i.e. deadlines to comply with the requirements of the Directive expired by the reference year of this Summary; “not subject to compliance” refers to those Member States with non-expired deadlines by the reference year of this Summary).

### 5.3. Compliance with article 5



Picture 12: Assessment of compliance with Article 5 (in relation to the generated load subject to compliance with Article 5) for 18 Member State subject to compliance (i.e. deadlines to comply with the requirements of the Directive expired by the reference year of this Summary; “not subject to compliance” refers to those Member States with non-expired deadlines by the reference year of this Summary).

## **6. PROGRESS OF WASTE WATER INFRASTRUCTURE IN PLACE AND COMPLIANCE WITH THE REQUIREMENTS OF THE DIRECTIVE**

With the objective to show the progress in the status of waste water infrastructure in place and the compliance with the requirements of the Directive, the results from the 5<sup>th</sup> Implementation Summary (reference year 2005 or 2006) have been compared with the corresponding results in the 6<sup>th</sup> Summary. 10 Member States of EU-15 (AT, BE, DK, FI, FR, DE, LU, NL, PT and SE) and 7 Member States of EU-12 (CY, EE, HU, LT, RO, SK and SI), which have reported in time and in the agreed format for the 5<sup>th</sup> and 6<sup>th</sup> Implementation Summary, have been included in the aforementioned comparison.

It is shown in table 1 and pictures 13 to 17 that, for EU-15 no major differences were reported on the average number of collecting systems and secondary treatment installations in place; however, the average number of installations providing more stringent treatment with compliant results has notably improved.. For those EU-12 Member States where this comparison could be elaborated, a slight increase in the share of load collected in collecting systems has been noted, as well as improvements in complying monitoring results related to secondary treatment. The share of load treated with more stringent treatment did not practically change.

Installations in place do not always achieve the requirements in the Directive. Pictures 15 and 17 indicate if the installations work adequately, i.e. whether their monitoring results comply for secondary and more stringent treatment.

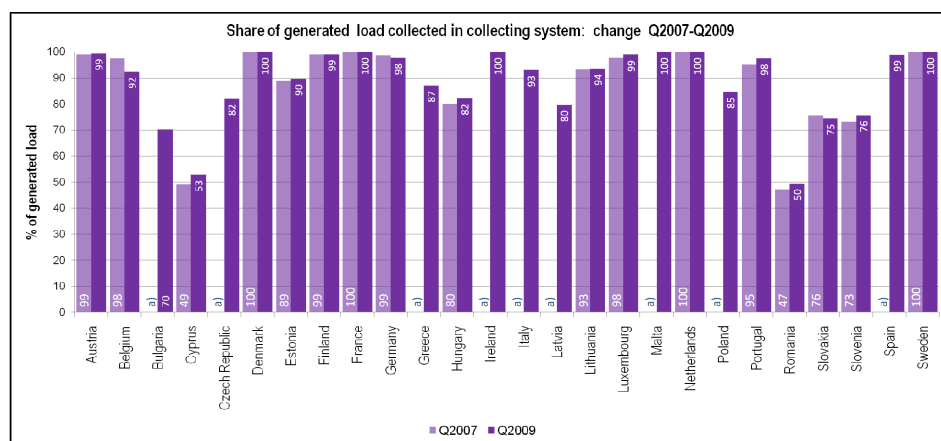
If the comparison with the 5<sup>th</sup> Implementation Summary of 2009 is made at the level of the individual Member States, it is shown (table 1) that no major changes have taken place or slight improvement has been achieved for collecting systems. However, the number of installations providing secondary treatment, more stringent treatments and with compliant monitoring results, have experienced significant differences (increase and decrease) in some Member States.

A number of Member States (AT, DK, NL and SE) already have a high status of waste water infrastructure in place (100%) throughout several reporting exercises. In these particular cases, it should be remarked that keeping such high level entails a regular maintenance and improvement/enlargement of the existing installations in order to get adapted to the new situations and still remain in compliance with the Directive, even going in many occasions beyond the requirements of the Directive (e.g. further advanced waste water treatment, improved maintenance and technical equipment of treatment plants, etc..

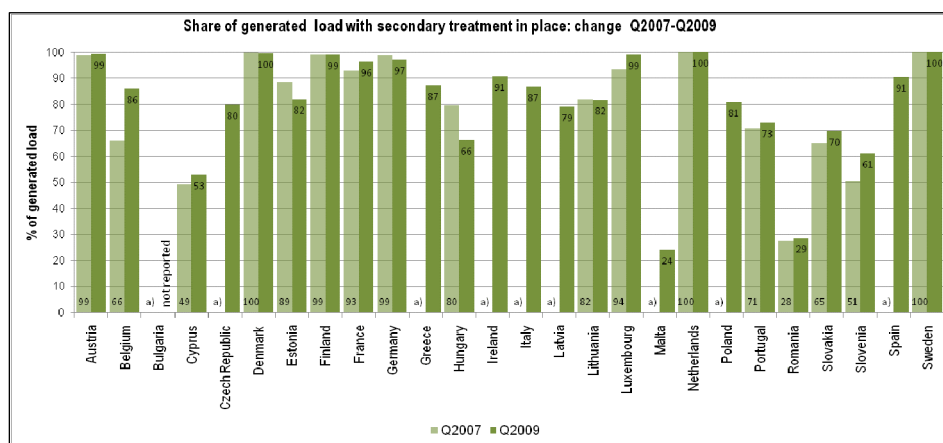
	Collecting system in place (%) -	Secondary treatment in place (%)	Monitoring results comply with secondary treatment (%)	Installation for more stringent treatment in place (%)	Monitoring results comply with more stringent treatment (%)
Progress from Q2007 to Q2009					
AT	↑ 0.4	↑ 0.6	↑ 0.6	↑ 3.8	↑ 3.6
BE	↓ -5.1	↑ 19.8	↑ 20.4	↑ 26.9	↑ 20.5
CY	↑ 3.5	↑ 3.8		↑ 18.7	
DK	→ 0.0	↓ -0.1	↓ -0.8	↑ 0.2	↓ -1.0
EE	↑ 0.9	↓ -6.5	↓ -0.3	↑ 12.5	↓ -2.5
FI	↑ 0.1	→ 0.0	↑ 11.7	→ 0.0	↑ 5.4
FR	→ 0.0	↑ 3.4	↑ 9.0	↑ 23.7	↑ 20.3
DE	↓ -0.9	↓ -1.5	↓ -1.2	↓ -1.4	↑ 1.6
HU	↑ 2.4	↓ -13.3	↑ 10.8	↓ -10.6	↓ -5.5
LT	↑ 0.3	↓ -0.3	↓ -10.9	↑ 11.5	↓ -3.2
LU	↑ 1.2	↑ 5.5	↓ -9.5	↑ 1.0	↓ -19.9
NL	→ 0.0	→ 0.0	→ 0.0	↑ 1.2	↑ 1.2
PT	↑ 2.4	↑ 2.3	↑ 1.6	↑ 2.6	↓ -1.3
RO	↑ 2.2	↑ 1.0	↑ 0.2	↑ 3.8	↓ -0.5
SK	↓ -1.0	↑ 4.4	↑ 13.5	↓ -1.9	↑ 4.2
SI	↑ 2.5	↑ 10.6	↑ 15.4	↑ 2.5	↑ 34.4
SE	→ 0.0	→ 0.0	↑ 0.7	→ 0.0	↓ -18.8

Table 1: Progress (%) from Q2007 to Q2009 in collecting systems in place, secondary treatment and more stringent

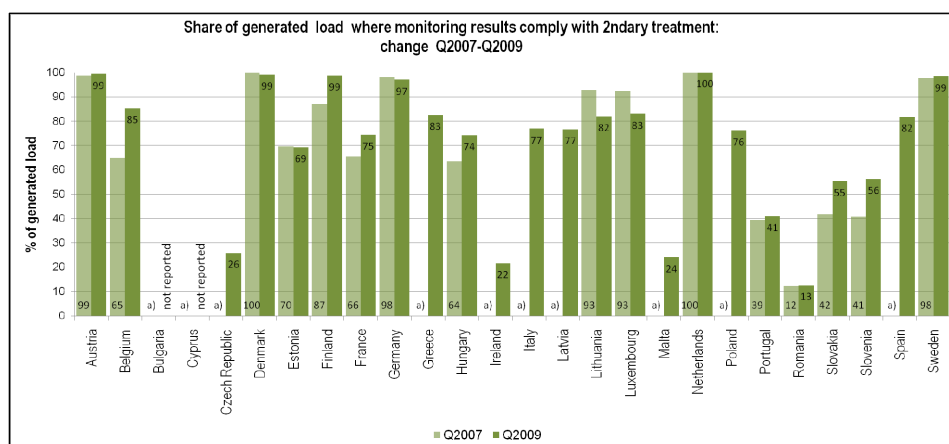
treatment in place as well as complying monitoring results for those 17 Member States, for which information was available (green highlights increase of percentage, red shows decrease of percentage, orange: no changes). CY did not yet provide monitoring data as regards secondary treatment and more stringent treatment installations.



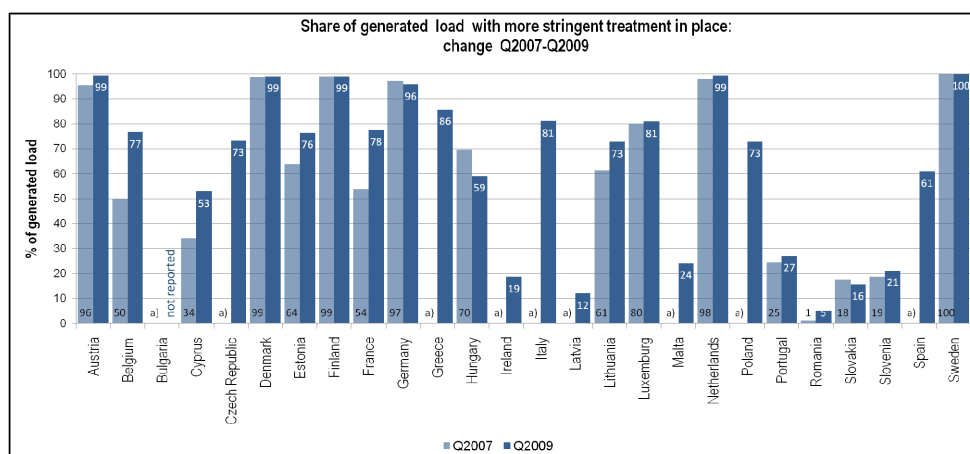
Picture 13: Progress in collecting system in place (reference years 2005/2006 for the 5<sup>th</sup> Implementation Summary and reference years 2007/2008 for the 6<sup>th</sup> Implementation Summary) in % of the total generated load (Legend: a) not reported in Q2007).



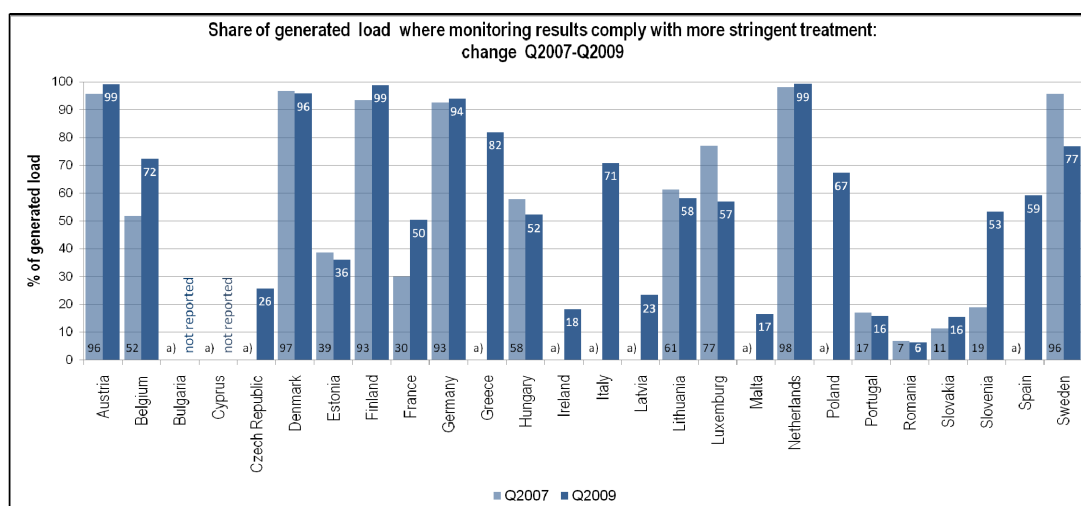
Picture 14: Progress in secondary treatment installations in place (reference years 2005/2006 for the 5<sup>th</sup> Implementation Summary and reference years 2007/2008 for the 6<sup>th</sup> Implementation Summary) in % of the total generated load (Legend: a) not reported in Q2007).



Picture 15: Progress in secondary treatment installations with compliant monitoring results in place (reference years 2005/2006 for the 5<sup>th</sup> Implementation Summary and reference years 2007/2008 for the 6<sup>th</sup> Implementation Summary) in % of the total generated load (Legend: a) not reported in Q2007).



Picture 16: Progress in more stringent treatment installations in place (reference years 2005/2006 for the 5<sup>th</sup> Implementation Summary and reference years 2007/2008 for the 6<sup>th</sup> Implementation Summary) in % of the total generated load (Legend: a) not reported in Q2007).

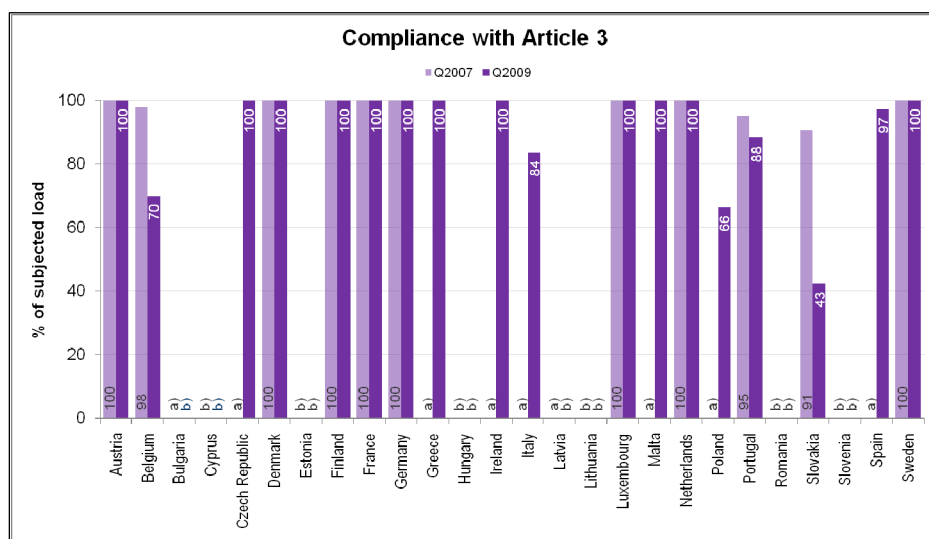


Picture 17: Progress in more stringent treatment installations with compliant monitoring results in place (reference years 2005/2006 for the 5<sup>th</sup> Implementation Summary and reference years 2007/2008 for the 6<sup>th</sup> Implementation Summary) in % of the total generated load (Legend: a) not reported in Q2007).

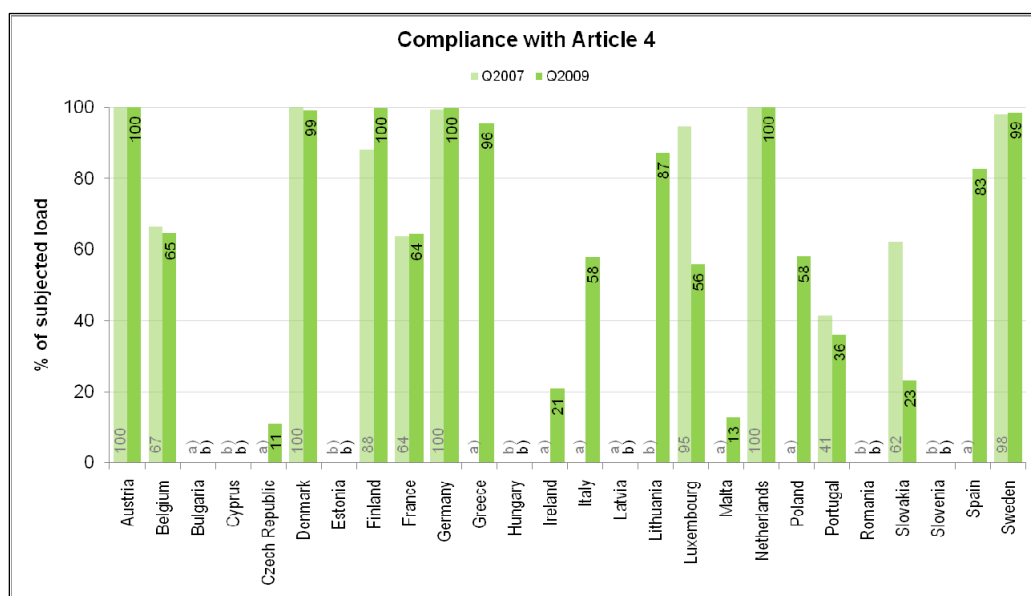
Table 2 and pictures 18, 19 and 20 show the progress of the compliance rates with Article 3, 4 and 5 (in % of the total generated load) and data presented in the 5<sup>th</sup> Implementation Summary for the Member States where data were available

	Compliance in % of subjected load		
	Article 3	Article 4	Article 5
AT	⇒ 0.0	⇒ 0.0	⇒ 0.0
BE	⇓ -27.9	⇓ -1.8	⇓ -1.4
DK	⇒ 0.0	⇓ -0.8	⇑ 6.2
FI	⇒ 0.0	⇑ 11.7	⇑ 66.3
FR	⇒ 0.0	⇑ 0.4	⇑ 14.5
DE	⇒ 0.0	⇑ 0.3	⇒ 0.0
LU	⇒ 0.0	⇓ -38.7	⇑ 6.8
NL	⇒ 0.0	⇒ 0.0	⇒ 0.0
PT	⇓ -7.0	⇓ -5.3	⇑ 1.8
SK	⇓ -50.7	⇓ -30.8	not subject
SE	⇒ 0.0	⇑ 0.6	⇑ 7.1

Table 2: Progress (%) from Q2007 to Q2009 in compliance with Article 3, 4 and 5 for those 11 Member States, for which information was available (green highlights increase of percentage, red shows decrease of percentage, orange no changes).

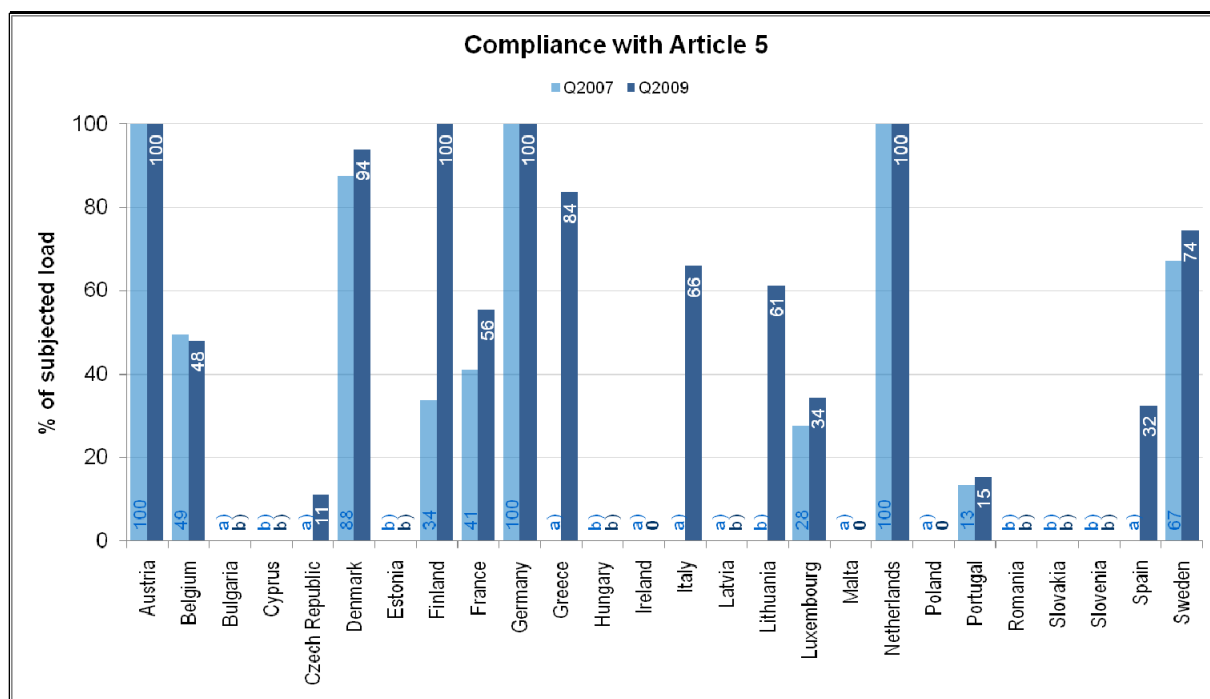


Picture 18: Progress in compliance rates for Article 3 Directive (reference years 2005/2006 for the 5<sup>th</sup> Implementation Summary and reference years 2007/2008 for the 6<sup>th</sup> Implementation Summary), in % of the subjected load. (Legend: a) no data included in 5<sup>th</sup> Implementation Summary and b) not subject to compliance with this Article).



Picture 19: Progress in compliance rates for Article 4 UWWTD (reference years 2005/2006 for the 5<sup>th</sup> Implementation Summary and reference years 2007/2008 for the 6<sup>th</sup> Implementation Summary) for EU-15 and EU-12 in % of the subjected load (Legend: a) no data included in 5<sup>th</sup> Implementation Summary and b) not subject to compliance with this Article).





Picture 20: Progress in compliance rates for Article 5 UWWTD (reference years 2005/2006 for the 5<sup>th</sup> Implementation Summary and reference years 2007/2008 for the 6<sup>th</sup> Implementation Summary) for EU-15 and EU-12 in % of the subjected load (Legend: a) no data included in 5<sup>th</sup> Implementation Summary and b) not subject to compliance with this Article).