



# Urban Waste Water Directive

## Policy Review



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## Urban Waste Water Directive

### Policy Review

#### Name/Type of the Legal Act or Policy

Urban Waste Water Directive (UWWT Directive), [Council Directive 91/271/EEC](#) of 21 May 1991 concerning urban waste-water treatment

To clarify the requirements of the Directive in relation to discharges from urban waste water treatment plants to sensitive areas which are subject to eutrophication, [Directive 98/15/EC amending Directive 91/271/EEC](#) was adopted. It had the effect of amending Table 2 of Annex I.

[Commission Decision 2014/431/EU](#) was adopted on 26 June 2014 and replaces the Commission Decision 93/481/EEC on 28 July 1993. It defines the information that Member States should provide the Commission when reporting on the state of implementation of the Directive according to Art. 17, and specifies the format in which the information should be provided. This Decision was adopted in accordance with Art. 18 of the Directive.

Concerning its implementation: Report from the Commission – Implementation of Council Directive 91/271/EEC of 21 May 1991 concerning urban wastewater treatment, as amended by Commission Directive 98/15/EC of 27 February 1998 – Summary of the measures implemented by the Member States and assessment of the information received pursuant to Art. 17 and 13 of the Directive ([COM\(98\) 775 final](#) of 15.1.1999). Commission Report – Implementation of Council Directive 91/271/EEC of 21 May 1991 concerning urban wastewater treatment, as amended by Commission Directive 98/15/EC of 27 February 1998 ([COM\(2001\) 685 final](#) of 21.11.2001). Report from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions:- Implementation of Council Directive 91/271/EEC of 21 May 1991 concerning urban wastewater treatment, as amended by Commission Directive 98/15/EC of 27 February 1998 ([COM\(2004\) 248 final](#) of 23.4.2004). Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions – Seventh report on the implementation of the Urban Waste Water Treatment Directive (91/271/EEC) ([COM\(2013\) 574 final](#) of 7.8.2013). Commission Staff Working Document – Accompanying document 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 [COM(2007) 128 final] [SEC(2007) 363] ([SEC\(2007\) 362 final](#) of 22.3.2007). Commission Staff Working Document – 5th Commission Summary on the Implementation of the Urban Waste Water Treatment Directive ([SEC\(2009\) 1114 final](#) of 3.8.2009). Commission Staff Working Document – 6th Commission Summary on the Implementation of the Urban Waste Water Treatment Directive ([SEC\(2011\) 1561 final](#) of 7.12.2011).

#### Entry into force

19 June 1991

Departments/Units in charge
DG ENV, Dir. C Quality of Life, Water & Air, 1. Water Mr MISIGA Pavel Head of Unit Tel: +32 229-94420
Common Implementation strategy (CIS processes)
<p>There is a UWWD-REP Working Group which has produced the Guidance document “Terms and Definitions of the Urban Waste Water Treatment Directive” used to assist the reporting process. However, it seems that this WG is no longer active as no other documents seem to have been produced. The Directive’s Preamble states that a “Committee should be established to assist the Commission on matters relating to the implementation of this Directive and to its adaptation to technical progress.” Art. 18 states that the Committee shall be “composed of the representatives of the Member States and chaired by the representative of the Commission”.</p> <p>CIS guidance document n° 23 – “Eutrophication Assessment in the Context of European Water Policies”: The UWWT Directive does not specify any methods or guideline values for assessing eutrophication. The guidance document specifies some criteria used by Member States to assess eutrophication and cites relevant case law (decision number C-280/02, ECJ judgement on 23/09/2004 vs. France) related to the breach of the Directive requirements in relation to non-designation of sensitive areas and lack of infrastructure for 130 agglomerations discharging into sensitive areas. The ruling addresses the following points: Broader interpretation of purposes of Directive 91/271/EEC; Important guidance on component parts of definition of “eutrophication”; Need to decouple duty to designate sensitive areas from whether or not agglomerations with more than 10 000 population equivalents exist in catchment.</p> <p>CIS work programme 2013–2015: work on UWWD has been integrated in the new structure as one theme of the Water Management group.</p>
Administrative body handling implementation in MS
<p><i>French Implementation of the Urban Waste Water Directive:</i> The ministry of Ecology is responsible for the implementation of the second <a href="#">national action plan</a> (2012–2018) for the upgrading of wastewater treatment in metropolitan areas, adopted in 2011. It aims at pursuing the implementation of European directives on water and to integrate wastewater treatment in a sustainable development logic. It comes with financial, organizational and communication measures. It is implemented in partnership with ONEMA (The French National Agency for Water and Aquatic Environments) and the water agencies.</p> <p>Municipalities are required to collect waste water rejected by households or companies authorized to reject into the collective network, and to treat them before their release into nature.</p>

*UK Implementation of the Urban Waste Water Directive:* The Environment Agency, the Northern Ireland Environment Agency and the Scottish Environment Protection Agency and Wales Environment Agency are the UK's environmental regulators. Their regulation role covers continuous discharges from the water industry, other industrial sectors and private discharges as well as intermittent discharges, such as those from combined sewer overflows or emergency overflows. Typically, any discharge to controlled waters requires a discharge authorization which sets out standards for parameters monitored in effluent from treatment plants. The umbrella body for UK water supply and sewerage services providers is Water UK, representing all major statutory water and wastewater service supply organisations in England, Wales, Scotland and Northern Ireland. They work at national and European level for a strong water industry on behalf of their members and the interests of all of their stakeholders. On behalf of their members, they engage with Defra and with other government departments and with the principal UK regulatory bodies – including Ofwat, the Environment Agency, the Drinking Water Inspectorate and their equivalents in Scotland, Wales and Northern Ireland.

*Belgian Implementation of the Urban Waste Water Directive:* The implementation of the urban wastewater treatment directive is managed at a regional level in Belgium. For instance, the Brussels-Capital region is responsible for: flood risk management; collection and treatment of waste and storm water; status monitoring of surface waters and those collected in sewers; protection and development of underground and surface water. Usually, municipalities are responsible for drainage; Chartered sanitation agencies are responsible for the realization and exploitation of sewage infrastructure collection; the Société Publique de Gestion de l'Eau (for the Walloon Region) coordinates actions of different operators and ensures the financing of collective sewage treatment, of priority drainage and of the protection of groundwater catchment facilities; the regional departments for the environment are in charge of delivering reviews of treated water discharges.

#### Main Objective

Art. 1: “The objective of the Directive is to protect the environment from the adverse effects of the abovementioned waste water discharges”.

CIS guidance document n° 23: “The Urban Waste Water Treatment Directive (UWWT Directive) aims to protect the environment from adverse effects of urban waste water discharges and direct discharges from certain (food processing) industries. It sets treatment levels on the basis of the agglomeration size and the sensitivity of waters receiving the discharges.”

#### Principles included in the legal text

There are no principles of law included within the legal text. However the judgements in the framework of the Directive’s implementation have called upon the precautionary principle.

#### Other objectives/Key concepts/key elements of the legislation

Four main obligatory elements are laid down in the Directive: Planning; Regulation; Monitoring; Information and reporting

Specifically the Directive requires:

- ▶ The Collection and treatment of waste water in all agglomerations of >2000 population equivalents (p.e.);
- ▶ Secondary treatment of all discharges from agglomerations of > 2000 p.e., and more advanced treatment for agglomerations >10 000 population equivalents in designated sensitive areas and their catchments;
- ▶ A requirement for pre-authorisation of all discharges of urban wastewater, of discharges from the food-processing industry and of industrial discharges into urban wastewater collection systems;
- ▶ Monitoring of the performance of treatment plants and receiving waters; and
- ▶ Controls of sewage sludge disposal and re-use, and treated waste water re-use whenever it is appropriate.

## Terminology

*Eutrophication:* refers to water becoming enriched by nutrients – like compounds of phosphorus and nitrogen – disrupting the water's balance of organisms and, in general, the quality of water.

*Secondary treatment:* waste water treatment by a process usually involving biological treatment (using aerobic bacteria, enzymes, etc.) with a secondary settlement or other process, which respects the directive's requirements in Annex I.

*Sensitive areas:* (i) water bodies at risk of eutrophication, (ii) surface waters for drinking containing more than 50 mg/litre of nitrates, and (iii) areas where further treatment is needed to comply with EU legislation on, for example, [water](#), [bathing water](#), [shellfish waters](#) and the conservation of [habitats](#) and [birds](#).

### *From the Directive:*

Criteria to define 'sensitive areas' (that require more stringent treatment before discharge) are included in Annex II of the Directive: "A water body must be identified as a sensitive area if it falls into one of the following groups : (a) 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 [...] (b) surface freshwaters intended for the abstraction of drinking water which could contain more than the concentration of nitrate laid down under the relevant provisions of Council Directive 75/440/EEC of 16 June 1975 concerning the quality required of surface water intended for the abstraction of drinking water in the Member States if action is not taken ; (c) areas where further treatment than that prescribed in Art. 4 of this Directive is necessary to fulfil Council Directives."

Criteria to define 'less sensitive areas' (which require less stringent treatment before discharge) are included in Annex II of the Directive: "A marine water body or area can be identified as a less sensitive area if the discharge of waste water does not adversely affect the environment as a result of morphology, hydrology or specific hydraulic conditions which exist in that area. When identifying less sensitive areas, Member States shall take into account the risk that the discharged load may be transferred to adjacent areas where it can cause detrimental environmental effects. Member States shall recognize the presence of sensitive areas outside their national jurisdiction. The following elements shall be taken into

consideration when identifying less sensitive areas : open bays, estuaries and other coastal waters with a good water exchange and not subject to eutrophication or oxygen depletion or which are considered unlikely to become eutrophic or to develop oxygen depletion due to the discharge of urban waste water."

Other key terms are included in Art. 2, amongst which:

'1 p.e. (population equivalent)' means the organic biodegradable load having a five-day biochemical oxygen demand (BOD5) of 60 g of oxygen per day;

'Urban waste water' means domestic waste water or the mixture of domestic waste water with industrial waste water and/or run-off rain water;

'domestic waste water' means waste water from residential settlements and services which originates predominantly from the human metabolism and from household activities;

'industrial waste water' means any waste water which is discharged from premises used for carrying on any trade or industry, other than domestic waste water and run-off rain water;

'agglomeration' means an 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;

'appropriate treatment' means treatment of urban waste water by any process and/or disposal system which after discharge allows the receiving waters to meet the relevant quality objectives and the relevant provisions of this and other Community Directives;

### **Derogations**

Indirect derogations are foreseen through less stringent treatment requirements in smaller agglomerations and less sensitive areas. Implementation deadlines for new Member States (EU-10 and EU-2) shall be in accordance with the transitional periods indicated in the Accession Treaties and the Directive deadlines (if not mentioned in the Treaties).

The 12 newer Member States, which joined the EU since 2004, were granted transitional periods which can extend the deadlines up to 2018. This gives time for the countries concerned to put the necessary infrastructure and equipment in.

### **Types of management measures**

Annex I sets requirements for urban wastewater: "The design, construction and maintenance of collecting systems shall be undertaken in accordance with the best technical knowledge not entailing excessive costs, notably regarding: volume and characteristics of urban waste water, prevention of leaks, limitation of pollution of receiving waters due to storm water overflows."

Urban waste water discharges from agglomerations of between 10 000 and 150 000 p.e. to coastal waters and those from agglomerations of between 2 000 and 10 000 p.e. to estuaries situated in less sensitive areas must receive at least primary treatment ('primary treatment' means treatment of urban waste water by a physical and/or chemical process involving settlement of suspended solids, or other processes in which the BOD5 of the incoming waste

water is reduced by at least 20% before discharge and the total suspended solids of the incoming waste water are reduced by at least 50%).

Urban waste water entering collecting systems shall before discharge be subject to secondary treatment ('secondary treatment' means treatment of urban waste water by a process generally involving biological treatment with a secondary settlement or other process) or an equivalent treatment at the latest Dec. 2000 for all discharges from agglomerations of more than 15 000 p.e., Dec. 2005 for all discharges of between 10 000 and 15 000 p.e. and for discharges to fresh-water and estuaries from agglomerations of between 2 000 and 10 000 p.e.

By 31 December 2005, urban waste water entering collecting systems shall before discharge be subject to appropriate treatment ('appropriate treatment' means treatment of urban waste water by any process and/or disposal system which after discharge allows the receiving waters to meet the relevant quality objectives and the relevant provisions of this and other Community Directives) for discharges to fresh-water and estuaries from agglomerations of less than 2 000 p.e. and discharges to coastal waters from agglomerations of less than 10 000 p.e.

Urban waste water entering collecting systems shall before discharge into sensitive areas be subject to more stringent treatment by 31 December 1998 at the latest for all discharges from agglomerations of more than 10 000 p.e.

Tables 1 to 3 of Annex I set the quantified requirements for stringent treatment of discharges from urban waste water treatment plants.

According to Art. 3, Member States shall ensure that all agglomerations are provided with collecting systems for urban waste water.

According to Art. 4, Member States shall ensure that urban waste water entering collecting systems shall before discharge be subject to secondary treatment or an equivalent treatment.

According to Art. 2(9): "appropriate treatment" means "treatment of urban waste water by any process and/or disposal system which after discharge allows the receiving waters to meet the relevant quality objectives and the relevant provisions of this and other Community Directives." Appropriate treatment can mean a range of treatments from the basic (rustic) to the technologically sophisticated.

### Spatial coverage

Are concerned: agglomerations from 2000 population equivalent to over 15 000 population equivalent, and their respective collection systems (including urban wastewater treatment plants). Member States are also required to establish the outer (seaward) limits of estuaries for the purposes of this Directive as part of the programme for implementation in accordance with the provisions of Art. 17 (1) and (2).

### Reporting units – what are the specific transposition requirements

The reporting exercise is at MS level. So far, six Implementation Reports have been published by the European Commission since 1998. The reports are based on data reported by Member States through questionnaires. Since 2007, the reporting under Art. 15 of the UWWD follows

a new standardised approach, which was jointly developed by the European Commission, the European Environment Agency and Member States and which was set-up in line with reporting principles under the Water Information System for Europe (WISE). All 27 Member States completed the reporting exercise 2011 and provided a complete dataset. The Commission requested Member States to provide data on waste water collection and treatment under Art. 15(4) of the Directive, based on an electronic questionnaire (Q2011). In total, 23 Member States made their first data submission within the official deadline to report for Q2011. Four Member States (BE, HU, PL and PT) uploaded their first data set shortly after the official deadline and until 17 February 2012 at the latest.

#### **Management unit**

Urban wastewater collection and treatment systems operators and their agglomerations from at least 2000 p.e.

#### **Key planning steps**

The planning aspects of the Directive require Member States to:

- Designate sensitive areas (sensitive water bodies) in accordance with three specific criteria, and to review their designation every four years;
- Identify the relevant hydraulic catchment areas of the sensitive areas and ensure that all discharges from agglomerations with more than 10 000 p.e. located within the catchment shall have more stringent than secondary treatment;
- Establish less sensitive areas if relevant;
- Establish a technical and financial programme for the implementation of the Directive for the construction of sewage collecting systems and wastewater treatment plants addressing treatment objectives within the deadlines set up by the Directive (and the Accession Treaties for new Member States).

#### **Timelines**

Date	Objective
30 June 1993	<p>Transposition of the Directive; Designation of sensitive areas and their catchments; review – every four years</p> <p>Identification of less sensitive areas if there are reasons for the Member State to do so; review – every four years</p>
31 December 1993	<p>Discharge of industrial waste water into collecting systems and urban waste water treatment plants subject to prior regulation and authorisation; Requirements for authorisation of direct discharges of industrial waste water from food processing industries to surface water in place; Establishment of programme for the implementation of the Directive</p>

30 June 1994	Implementation programmes communicated to the Commission (After this deadline, the programmes shall be updated by 30 June every two years, if necessary = i.e. if there are changes)
30 June 1995	Situation reports on collection, treatment and the disposal of urban waste water and sewage sludge in their areas are published every two years and transmitted to the Commission
31 December 1997	1st review of designation of sensitive areas, their catchments (and less sensitive areas – if appropriate); – review every four years
31 December 1998	Collecting systems for agglomerations >10 000 p.e. where discharges are into a sensitive area and its catchment ; Disposal of sludge from urban waste water treatment plants subject to general rules of registration or authorisation; Disposal of sludge to surface waters is banned
31 December 2000	Collecting systems for all agglomerations >15 000 p.e. discharging into normal areas; All discharges from agglomerations >15 000 p.e. subject to secondary treatment; Direct discharges of industrial biodegradable waste water from plants representing the load of > 4 000 p.e. to surface water subject to prior regulation and authorisation; Collecting systems for all agglomerations between 2 000 and 15 000 p.e.
31 December 2005	All discharges from agglomerations 10 000 – 15 000 p.e. subject to secondary treatment; Discharges to freshwater and estuaries from agglomerations between 2 000 and 10 000 p.e. subject to secondary treatment; Discharges to freshwater and estuaries from agglomerations <2 000 p.e. subject to appropriate treatment; Discharges to coastal waters from agglomerations < 10 000 p.e. subject to appropriate treatment; Review of identification of sensitive areas and less sensitive areas
Until Dec. 2018	Deadlines for EU-12 available here: <a href="http://ec.europa.eu/environment/water/water-urbanwaste/legislation/pdf/transitional_periods_eu10_eu2.pdf">http://ec.europa.eu/environment/water/water-urbanwaste/legislation/pdf/transitional_periods_eu10_eu2.pdf</a> . Croatia has until Dec. 2023.

#### Integration/coordination issues with other related pieces of legislation

The UWWT Directive in its Art. 2 states that ““appropriate treatment” means treatment of urban waste water by any process and/or disposal system which after discharge allows the receiving waters to meet the relevant quality objectives and the relevant provisions of this and other Community Directives”. However, no explicit reference to a specific Directive is made in the

legal text. The Commission in its last implementation report states that full implementation of the Directive is a pre-requisite for meeting the environmental objectives set out in the EU Water Framework Directive (WFD) and the Marine Strategy Framework Directive (MSFD).

Also, these Directives make explicit reference to the UWWTD in their texts (Art. 10 of the WFD and Art. 13 of the MSFD).

"The Urban Waste Water Treatment Directive and the Nitrates Directive are older Directives controlling specific pollution sources, whose measures are to be integrated into those of the Water Framework Directive, but are not altered by the Water Framework Directive."

"The Urban Waste Water Treatment Directive requires action to reduce pollution through end-of-pipe requirements. It is a complement to the legislation limiting pollution at source from agriculture (nitrates, pesticides) and industry and addresses pollution from households that would otherwise be discharged without treatment. The impressive improvement in the quality of EU bathing waters in the last decades is to a large extent due the implementation of the Directive."

Moreover, to help minimise pollution from various point sources, the Integrated Pollution Prevention and Control directive, which came into force 1996, can be seen as a complement to the UWWTD, as it has a set of common rules on permitting for industrial installations.

### **Coordination issues with the EU Biodiversity Strategy**

The UWWTD addresses the issues of chemical status and pollution of EU waters by targeting the significant point-source and diffuse chemical and other pollution in the aquatic environment. It therefore avoids discharges loaded with nutrients in the environment (lakes, water courses, the sea...).

In this regard it has an indirect effect on Target 2: Maintain and restore ecosystems and their services and in particular on Action 7: Ensure no net loss of biodiversity and ecosystem services – as it has an effect on the degradation or enhancement of ecosystems located in discharge points (or concerned by diffuse pollution).

Since the UWWTD is linked with the implementation of the MSFD (and the achievement of Good Environmental Status), it also has an indirect impact on Target 4: Ensure the sustainable use of fisheries resources and in particular on Action 14: Eliminate adverse impacts on fish stocks, species, habitats and ecosystems.

Since sensitive areas are explicitly including areas which need an advanced treatment to fulfil Council Directives, it ensures that urban wastewater is not putting pressure on habitats protected under the habitats directive. The UWWTD is hence also contributing to Target 1 of the Biodiversity Strategy.

### **Relevance to ecosystems/habitats?**

Are mentioned estuaries and coastal waters, freshwater, high mountain regions, catchment areas of sensitive areas (please see definition above for water bodies that are considered as "sensitive areas"), surface waters. The Directive's objective is to avoid/reduce the degradation of surface water quality. It seems that all aquatic ecosystems can be affected

(marine and freshwater at the points of wastewater discharges and also through diffuse pollution). Terrestrial ecosystems may also be affected indirectly (including forest, littoral zone and riparian zone ecosystems). Impacts of wastewater that is not properly treated and discharged in the environment range from locally increased fish mortality to widespread problems such as the spread of algae threatening whole eco-systems due to over fertilisation by farmers. Aquatic biodiversity and ecosystem services are not mentioned in the Directive. However, they may be affected by poor water quality. For example, ecosystem services such as the provision of clean drinking water and food or also recreational activities may be affected. The 7th implementation report states "Wastewater pollution can also accelerate biodiversity loss and deteriorate drinking water supplies or bathing waters, causing public health concerns. These include outbreaks of water-borne diseases, especially linked to small water supplies, diseases due to exposure to contaminated bathing water (organic pollution, pollution by algal bloom due to excess of nutrients) or the consumption of contaminated seafood, etc. These impacts may also entail negative consequences for economic sectors such as the tourism or the shellfish farming industry."

## Drivers

- ▶ Agglomerations and their waste loads / settlement areas and their discharges, including the resident and non-resident (tourists ...) population;
- ▶ Industrial waste water from enterprises and economic activities (including small and medium sized-enterprises) that is or should be discharged into the collecting system or urban wastewater treatment plant; In particular, "adverse effects of discharges of biodegradable industrial waste water from the agro-food sector (e.g. milk processing industry, meat industry, breweries etc.)" are addressed (7th Implementation Report);
- ▶ Industries covered by Art. 11 (a list of industrial sectors concerned by the Directive is included in Annex III);
- ▶ All remaining urban waste water whether collected (via collecting systems as referred to in Art. 3(1)) or not collected but generated in an agglomeration.

The existence of an agglomeration relates to a de facto situation of 'population and/or economic activities, which are sufficiently concentrated for urban waste water to be collected and conducted to an urban wastewater treatment plant or a final discharge point' (<http://ec.europa.eu/environment/water/water-urbanwaste/info/pdf/terms.pdf p. 6>).

The main indicator used for the characterisation of the driver is the size of the agglomeration in person equivalents ('1 p.e. (population equivalent)' means the organic biodegradable load having a five-day biochemical oxygen demand (BOD5) of 60 g of oxygen per day – Directive Art. 2).

## Pressures

The legal act/policy addresses pollution, mainly (organic pollution and excessive nutrient loads – phosphorus, nitrogen, bacteriological pollution that might affect human health).

Low levels of implementation can lead to organic pollution in rivers and lakes and also to the accumulation of excessive nutrient loads (eutrophication) especially affecting lakes, coastal and marine waters which are particularly sensitive.

Success indicators used in this assessment to measure the reduction of discharged loads of nutrients and organic matter from urban waste water treatment plants to European surface waters are: Percentage of national population connected to primary waste water treatment; Percentage of national population connected to secondary waste water treatment; Percentage of national population connected to tertiary waste water treatment.

The indicators illustrate: changes in wastewater treatment in the regions of Europe since the 1980s; conformity (in terms of providing tertiary treatment) by Member States with the requirement to provide, by 31 December 1998, stringent treatment for agglomerations with population equivalent (p.e.) more than 10 000 that discharge into sensitive areas; levels of urban wastewater treatment in large cities in the EU (agglomerations >150 000 p.e.).

Rationale: Wastewater from households and industry represents a significant pressure on the water environment because of the loads of organic matter and nutrients as well as hazardous substances. With high levels of the population in EEA member countries living in urban agglomerations, a significant fraction of wastewater is collected by sewers connected to public wastewater treatment plants. The level of treatment before discharge and the sensitivity of the receiving waters determine the scale of impacts on aquatic ecosystems. The types of treatments and conformity with the directive are seen as proxy indicators for the level of purification and the potential improvement of the water environment.

Primary (mechanical) treatment removes part of the suspended solids, while secondary (biological) treatment uses aerobic or anaerobic micro-organisms to decompose most of the organic matter and retain some of the nutrients (around 20–30%). Tertiary (advanced) treatment removes the organic matter even more efficiently. It generally includes phosphorus retention and in some cases nitrogen removal. Primary treatment alone removes no ammonium whereas secondary (biological) treatment removes around 75%. The indicator tracks the success of policies to reduce pollution from wastewater by describing the trends in the percentage of the population connected to public wastewater treatment plants with different levels of purification.

*Source: [EEA, 2015](#)*

### Assessment of Environmental State

"Treatment of urban waste water by any process and/or disposal system which after discharge allows the receiving waters to meet the relevant quality objectives and the relevant provisions of this and other Community Directives." (Art. 2)

However the environmental "state" is not part of the Directive's vocabulary.

For waters subject to Art. 4 and 5 the following parameters and their maximum concentrations must be monitored: Biochemical oxygen demand (BOD<sub>5</sub> at 20 °C) without nitrification: 25 mg/l O<sub>2</sub>; Chemical oxygen demand (COD): 125 mg/l O<sub>2</sub>; Total suspended solids: 35 mg/l for more than 10 000 p.e.; 60 for 2000–10 000 p.e.

More stringent requirements apply for discharges from treatment plants to sensitive areas subject to eutrophication (defined in Annex I table 2). One or both parameters apply depending on the local situation: Total phosphorus parameter: 2 mg/l P (10 000 – 100 000

p. e.); 1 mg/l P (more than 100 000 p. e.); Total nitrogen: 15 mg/l N (10 000 – 100 000 p. e.); 10 mg/l N (more than 100 000 p.e.).

A maximum permitted number of samples which fail to conform compared to samples taken is defined (table 3 of Annex I).

### Assessment of Status

It does not explicitly address “environmental status”. However its ultimate aim is “to reach the target of the WFD that is a good chemical and biological status for all waters in 2015, the discharge of substances being one of the major problems to face”.

“As regards concrete measures foreseen in the various Directives to combat eutrophication, according to Art. 5(2) of Directive 91/271/EEC, Member States shall ensure that urban waste water entering collecting systems shall before discharge into sensitive areas be subject to a more stringent treatment to reduce the nutrient load, for agglomerations of more than 10,000 p.e.. In addition, in accordance with Art. 5(5), discharges which are located in the relevant catchment areas of sensitive areas and which contribute to the pollution of these areas shall also be subject to a more stringent treatment.

Nevertheless, following Art. 5.8 of Directive 91/271/EEC, Member States do not have an obligation to identify sensitive areas (i.e. sensitive water bodies) if they implement, on their whole territory, more stringent treatment (Art. 5.2 and 5.3) or apply 75% reduction of the overall load of total nitrogen and of total phosphorus entering all urban waste water treatment plants (Art. 5.4).”

Urban Waste Water Treatment Directive (91/271/EEC). There is no EU guidance on how the monitoring of water status/quality should be undertaken (the Directive gives guidance on the monitoring of the effluents before discharge from the treatment works (Annex 1D of Directive 91/271/EEC)). There may be national examples available. Source: CIS Guidance document n° 23 on Eutrophication Assessment in the Context of European Water Policies

### Data

There is a reporting system in place: Art. 15 of the Directive requires Member States to collect monitoring data and to make it available to the Commission within 6 months of receipt of a request. To date the Commission has issued four such requests. Art. 17 of the Directive requires Member States to provide the Commission with information on the status and programme of implementation for the Directive. Commission Decision 93/481/EEC provides the information that this report should contain and the format in which it should be supplied.

Data on compliance with UWWTD is available through an interactive map and database here: <http://www.eea.europa.eu/data-and-maps/uwwtd/interactive-maps/urban-waste-water-treatment-maps>. It displays aggregated results of the legal compliance with the Directive requirements for collecting system, biological and more stringent treatment. The data sheet presents description of individual treatment plants, key figures on performance, information of the point of discharge as well as the information on legal compliance of the agglomeration served by the presented treatment plant.

Other layers include:

- ▶ Layer Agglomeration overall compliance: the layer displays aggregated results of the legal compliance with the Directive requirements for collecting system, biological and more stringent treatment.
- ▶ UWWTD agglomerations – treatment pathways: This layer shows the type of treatment for all agglomerations  $\geq 2.000$  p.e.
- ▶ UWWTD agglomerations – big cities: This layer shows apportionment of generated load in p.e. from agglomerations  $\geq 150.000$  p.e.
- ▶ UWWTD treatment plants: This layer shows types of treatment for urban wastewater treatment plants reported for agglomerations  $\geq 2.000$  p.e.
- ▶ UWWT plants – types of additional polishing treatment steps: The layer displays all treatment plants reported for agglomerations  $\geq 2.000$  p.e., which are equipped with additional polishing treatment steps e.g. disinfection, sand filtration and other.
- ▶ UWWTD plants – performance compliance, overall: The layer displays overall performance (compliance of individual treatment plants with the effluent standards stipulated by the Directive).
- ▶ UWWTD receiving areas, catchments: This layer shows the areas with sensitivity as designated by the Member states.

The CIS guidance document no. 21 on reporting under the WFD specifies that reporting under the UWWTD has various backgrounds, through Committee procedures. E.g. “reporting under Art. 17 of UWWTD was set up via Commission Decision 83/481/EEC, while reporting under Art. 15(4) was based on the Commission duty to issue the questionnaires (request of information) to the Member States with the duty to reply within six months”.

### Funding

EU funds can be used to assist in the implementation of the Directive, in particular the Cohesion Fund and European Regional Development Fund (ERDF) which help those regions lagging behind or facing structural difficulties in achieving sustainable development. These Funds have significantly supported Member States and the regions to invest in the needed infrastructures for waste water treatment over several programming periods. The financial support for investments in waste water related works and infrastructures was planned to be about 14.3 billion € in 21 Member States in the current programming period 2007–13. It is mainly, but not only, the "new" Member States that have allocated the largest shares of their funding into waste water treatment. During the reported years 2009/2010, the total cumulative allocated funds in the category "waste water" was 3.5 billion € for 2009 and 9.7 billion € for 2010. The Member States with highest cumulative allocated amounts were Poland (3.3 billion €), Romania (1.2 billion €) and Hungary (0.6 billion €)." *Source: [7th implementation report](#)*

Other issues to be aware of relevant for AQUACROSS?

Compliance rates for collecting systems: “Most of the EU Member States collect their waste waters at very high levels with an average rate of compliance equal to 94% (up from 92%). Some 15 Member States even reach compliance of 100%. All Member States have either maintained or improved on previous results. However, there are still countries where there is either no or only partial collection of sewage. Five Member States still had compliance rates below 30% in 2009/2010 (BG, CY, EE, LV, SI).”

Secondary treatment:“ In 2009/2010, a total of 82% of the waste waters in the EU received secondary treatment complying with the provisions of the Directive”

More stringent treatment: “overall compliance rate of 77%”

## About AQUACROSS

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Knowledge, Assessment, and Management for AQUAtic Biodiversity and Ecosystem Services aCROSS EU policies (AQUACROSS) aims to support EU efforts to protect aquatic biodiversity and ensure the provision of aquatic ecosystem services. Funded by Europe's Horizon 2020 research programme, AQUACROSS seeks to advance knowledge and application of ecosystem-based management (EBM) for aquatic ecosystems to support the timely achievement of the EU 2020 Biodiversity Strategy targets.

Aquatic ecosystems are rich in biodiversity and home to a diverse array of species and habitats, providing numerous economic and societal benefits to Europe. Many of these valuable ecosystems are at risk of being irreversibly damaged by human activities and pressures, including pollution, contamination, invasive species, overfishing and climate change. These pressures threaten the sustainability of these ecosystems, their provision of ecosystem services and ultimately human well-being.

AQUACROSS responds to pressing societal and economic needs, tackling policy challenges from an integrated perspective and adding value to the use of available knowledge. Through advancing science and knowledge; connecting science, policy and business; and supporting the achievement of EU and international biodiversity targets, AQUACROSS aims to improve ecosystem-based management of aquatic ecosystems across Europe.

The project consortium is made up of sixteen partners from across Europe and led by Ecologic Institute in Berlin, Germany.

## AQUACROSS PARTNERS

<b>Ecologic Institute (ECOLOGIC)   Germany</b>	<b>University of Liverpool (ULIV)   United Kingdom</b>
<b>Leibniz Institute of Freshwater Ecology and Inland Fisheries (FVB-IGB)   Germany</b>	<b>University College Cork, National University of Ireland (UCC)   Ireland</b>
<b>Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization (IOC-UNESCO)   France</b>	<b>Royal Belgian Institute of Natural Sciences (RBINS)   Belgium</b>
<b>Wageningen Marine Research (WMR)   Netherlands</b>	<b>Stockholm University, Stockholm Resilience Centre (SU-SRC)   Sweden</b>
<b>University of Natural Resources &amp; Life Sciences, Institute of Hydrobiology and Aquatic Ecosystem Management   Austria</b>	<b>Danube Delta National Institute for Research &amp; Development (INCDDD)   Romania</b>
<b>Fundación IMDEA Agua (IMDEA)   Spain</b>	<b>Eawag – Swiss Federal Institute of Aquatic Science and Technology (EAWAG)   Switzerland</b>
<b>Universidade de Aveiro (UAVR)   Portugal</b>	<b>International Union for Conservation of Nature (IUCN)   Belgium</b>
<b>ACTeon – Innovation, Policy, Environment (ACTeon)   France</b>	<b>BC3 Basque Centre for Climate Change (BC3)   Spain</b>

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