21 October 2021

EurEau

EurEau Recommendations for the

Commission guidelines for criteria on the costs of cleaning up litter referred to in article 8.3 of Directive 2019/904

1. Background

Article 8.3(b) of Directive 2019/904 (SUP Directive) obliges Member States to 'ensure that the producers of the single-use plastic products listed in Sections II and III of Part E of the Annex cover at least the following costs:
…;
(b) the costs of cleaning up litter resulting from those products and the subsequent transport and treatment of that litter;'

This includes 'wet wipes, i.e. pre-wetted personal care and domestic wipes.'

The Commission must publish guidelines for criteria on the costs of cleaning up litter referred to in paragraphs 2 and 3.

2. What is the situation today?

Over the past years, waste water operators find an increasing amount of wet wipes and sanitary products in the waste water infrastructure. This is mainly due to more littering through toilets and, to a less extent, to road run-off.

The per capita consumption of wet wipes and sanitary products and the level of consumer awareness differs significantly between Member States, and so does the amount of these products retrieved from blocked pipes, clogged pumps and screen

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removal at the waste water treatment plant (WWTP). To give a sense of scale, in the UK around 300,000 blockages are cleared annually, with wet wipes making up 93% of the material causing blockages.

The **economic damage** is **substantial (see point 4 for more details). In addition, there can be a substantial environmental impact**, the cost of which cannot be easily quantified.

This occurs when blockages lead to the spilling of untreated waste water through **combined sewer overflows (CSOs).** Incidentally, such spills represent a non-negligible pathway of wet wipes and sanitary products to rivers and seas. These blockages increase the risk of urban flooding (streets, private properties and public infrastructures). Furthermore wipes and sanitary products are a **source of microplastics** that can contaminate sewage sludge and jeopardise its recycling. Finally, waste water pumps **need more energy** when pumping solid waste such as wipes.

Depending on the management model in place, **waste water operators are either public entities / authorities themselves or they act on behalf of them**.

3. Why should littering through the sewer infrastructure be included in the cost calculation?

The SUP Directive tackles the most found waste plastic items on beaches, among them wet wipes. As shown in figure 1, there are several ways for wet wipes and sanitary products to end up in the marine environment and on beaches. Apart from littering on the beach itself, **the sewer network is a major pathway through**

- **littering through private and public toilets, when these products provoke CSOs.**
- **road run-off, when these products are littered in public spaces and are transported to water bodies through separate sewers,** and
- **road run-off when these products are littered in public spaces and block pipes and pumps in combined sewers provoking CSOs.**

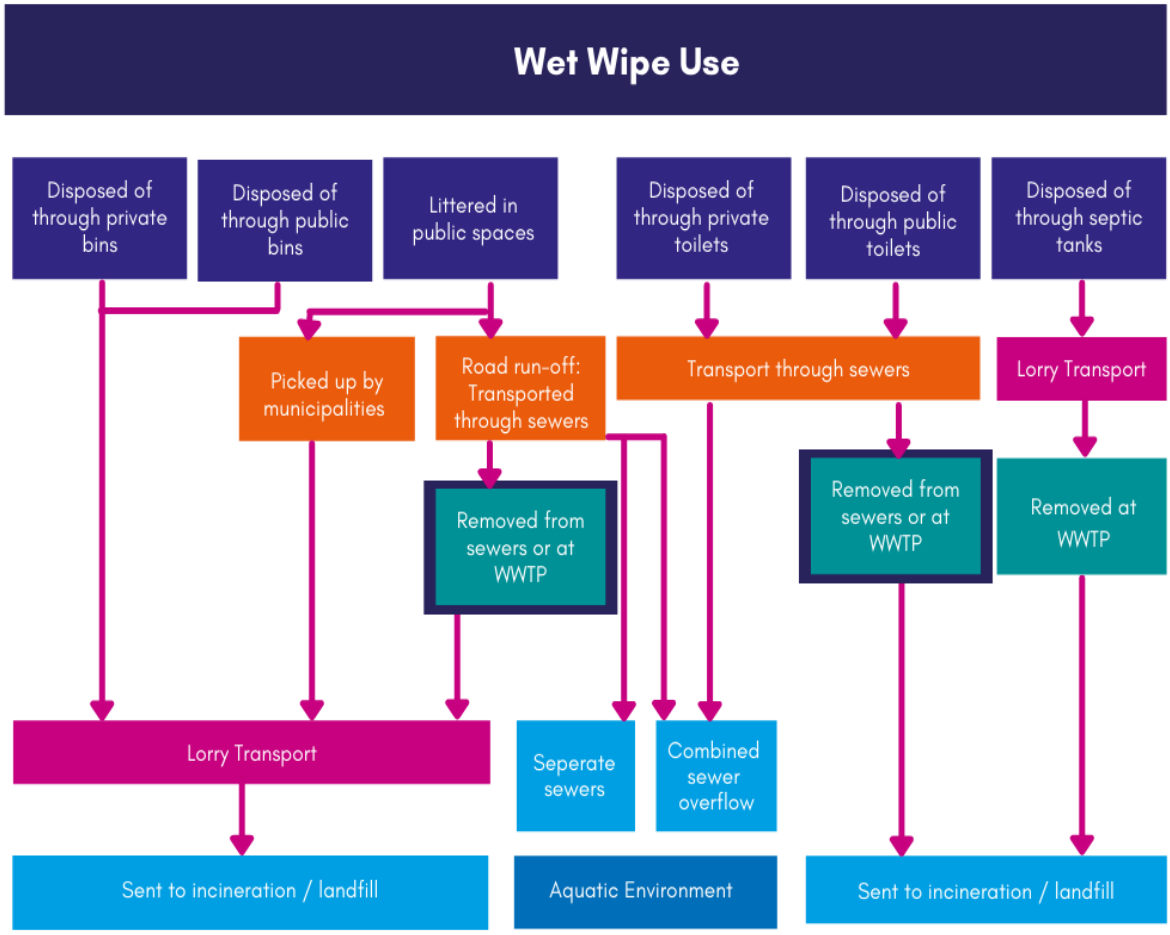

Figure 1: Pathways of used wet wipes and sanitary products

Wet wipes disposed of through the toilet or entering sewers through road run-off **inflict significant economic damage to waste water operators** through increasing preventive maintenance, emergency on-site actions (eg after a storm event that "flushes" the collection system), and repair costs (clogged pumps, blocked pipes) and waste management of retrieved wet wipes (screen at the WWTP influent).

Placing the burden on WWTP limits their investment capacity and negatively affects the affordability of waste water services.

Hence, the current situation is in contradiction to **article 191.2 (TFEU)** regarding the application of the precautionary principle and the principles that environmental damage should be rectified at source and that **the polluter should pay**. The need to fully implement the polluter-pays principle, in particular in the EU's environmental legislation, was emphasised in a **recent report by the European Court of Auditors**[1].

[1] ECA: Special Report 12/2021: The Polluter Pays Principle: Inconsistent application across EU environmental policies and actions (2021)

4. How could the cost of littering through the sewer infrastructure be determined?

Waste water operators conduct several types of litter clean-up activities which should be included in the EPR schemes:

~ Cost of awareness raising campaigns geared toward consumers,
~ Cost of unblocking pipes (staff, transport, equipment), preventive maintenance, emergency on-site actions,
~ Cost of unclogging/repairing/replacing waste water pumps (staff, transport, equipment), preventive maintenance, emergency on-site actions,
~ Cost of cleaning the screens of the WWTP inlet (staff, equipment),
~ Disposal cost of the retrieved wet wipes/sanitary products (mainly incineration).

The costs to be covered by EPR schemes should be proportional to the share of wet wipes in the litter retrieved through the above-mentioned activities.

Overall annual costs (estimates of EurEau members 2018-21):

Disclaimer:

EurEau takes no responsibility for the below data which were kindly provided by EurEau members. Apart from Austria, Spain and the United Kingdom, most of these data are based on estimates and extrapolations applying different methodologies. Despite these limitations, they provide an interesting insight in the economic costs caused by wet wipes and sanitary products.

Austria:

Data only for Styria: About 125 synthetic fibre wet wipes lead to clogging of a typical small wastewater pump. The end-of-life costs of synthetic fibre wet wipes are 3.6m €/a or >250 % of the purchase price, calculated through to the rake material at the rake[2].

Belgium:

Flanders (partial data): In 2018, Aquafin, the major Flemish waste water treatment operator, operated 318 waste water treatment plants (WWTPs), about 1500 pumping stations (of which 150 big pumping stations) and >6000 km of sewers. While it is complex to determine the extra costs, incidents due to wet wipes occur on about 2% of the infrastructure each year, resulting in extra operational (personnel, removal of material, extra maintenance) and/or investment costs/year .

[2] Montanuniversität Leoben, Lehrstuhl für Abfallverwertungstechnik und Abfallwirtschaft ‚Analysis and persistence of wet wipes in sewer systems' (2018)

The estimation of extra operational costs can be based on extrapolation of following costs of specific cases:

- Big syphon
  - Operational cost for an emergency intervention: **200.000 €** (incl. cleaning operation and removal of clogged material including wet wipes)
  - Operational cost for single maintenance cleaning: 65,000 €
- Big pumping station (>75 kW):
  - Operational costs for increased control frequency by technicians: **1,440 €/a**
  - Operational costs for extra maintenance : estimation **30,000-70,000 €/a, average 48,500 €/a**
- Small and medium-sized pumping station:
  - Operational costs for increased control frequency by technician: **120€/a**
  - Operational costs for extra (maintenance) cleaning based on average of several cases: estimation: **560 €/a**
- Reception unit septic material
  - Extra intervention: **520 €**
- WWTP and sewers: we have no cost estimates for additional costs for WWTPs or sewers.

Based on this, and considering an incidence of about 2% each year, the additional **operational costs** due to wet wipes in pumping stations already amount to at least **600,000 €/a (at least 0.12 € /person/a). This figure excludes the extra costs at WWTPs and sewers, as well as replacement costs in sewers or pumping stations.** Replacing one big pump may need an extra investment of 45,000 – 115,000 € (function of kW).

Wallonia: Prevention, cure and repair actions cost around 3,000,000 €/a (Wallonia in 2020: 437 WWTPs for a total capacity of 4,120,000 PE, around 1,200 pumping stations and 2,500 km of wastewater collection systems, sewers system excluded).

Including increased control frequency, more frequent cleaning of screens and pumps, extra-maintenance (particularly in the zones where pumping is essential to protect people and properties from flooding, management of extra waste, more frequent replacements of mixers and pumps, etc.

Denmark:

Results obtained from a restricted survey:

- Based on data for 2681 pumping stations, it is estimated that each station must be cleaned on average 1.82 times per year due to problems with wet wipes, and this cleaning takes place either due to actual downtime or during routine service visits, where i.a. future problems are sought to be addressed.
- A "cleaning" costs on average DKK 2,000 (266€) including service cars and hourly wages incl. overhead.
- The problems with wet wipes have increased by appr. 75% over the last 10 years.

- If the cost of the 5 utilities is compared to their actual operating costs, it amounts to around DKK 10 million. DKK (1.33 million €) corresponding to 2.8%. If this is extrapolated to the entire waste water industry (utilities), the cost of wet wipes corresponds to just over DKK 80m DKK/a (10.66 million €/a).

Estonia:

In a small water company (approx. 3000 pe), the clogging of pipes caused by wet wipes occurs on average 3-4 times a year. The annual additional cost to the operator is approx. 1000 € (pressure washer, use of cleaning tape, etc.). If a sewage pump is affected, it must be cleaned on average once a month, which is 12 cases a year. The working time for cleaning one pumping station is approximately 2 hours. In 2020, the operator was forced to buy one new sewage pump at a cost of 1,200 euros.

In 2020, a medium-sized water operator had to solve the problems caused by fibers about 20 times. The average cost of a one-time challenge is € 75. Thus, the annual cost is about 1500 €.

Finland

Data from the biggest waste water treatment operator (20 % of the Finnish waste water, 1,7m PE).
Attention: the extra costs do not only include wet wipes and sanitary products but also face masks during the pandemic. In this case, masks thrown in toilets increased the number of pipe and pump blockages fivefold. Compared to the situation before the pandemic (350 more blockages). The extra cost for that WWTP operator amounts to around 100,000€/y.

Germany:

Exact numbers are not available. The DWA estimates costs at more than 100m €/a. The Berlin water operator calculates with extra costs of 1m €/a, while Dresden sees 100,000 €/a of extra costs.

Greece:

Overall data for the country as well as exact numbers are not available.

Thessaloniki: Regular problems are caused by wet wipes at the sewage pumping stations. The rate of wet wipes occurrence in clogs is estimated to be at least 30% thereby causing several pump failures. According to estimations (2018), the total cost for cleaning and maintaining sewer pump stations of Thessaloniki, due to wet wipe clogging, is 420,000 €/a. Similar problems are also mentioned by Thessaloniki's wastewater treatment plant operators regarding wet-wipes presence at screenings and additional relevant data can be provided.

Hungary: 15m €/a (2018)

The problems caused by wet wipes mainly appear at the sewage pumping stations. The rate of wet wipes occurrance in clogs is estimated to be at least 75% making them the most important issue in pump failures. According to estimations (2018), the total cost for cleaning and maintaining sewer pump stations due to wet wipe clogging is

15m €annually. This cost consists of workforce + machinery (fuel, amortisation etc.) and disposal costs.

Ireland:

- €7m cost of ragging removal in 2017 (mostly wet wipes).
- 60 tones a month removed from Ringsend WWTP (40% of Irelands waste water treatment).
- Ireland has a Think Before You Flush campaign designed to draw attention to the problems caused by flushing items down toilets.
- About 75 percent of blockages are caused by inappropriate items such as wipes and sanitary products being flushed down the toilet.
- IW clear approximately 2,000 blockages from our wastewater network every month.

Netherlands: 45m €/a

Romania:

Additional operational costs at Glina WWTP due to wet wipes in sewers and pumping stations:

- Replacing one big pump may cost 30,000 – 200,000 €.
- Removal and transport for wet wipes, sanitary towels and other debris from the screening: - 170,000 €/a.
- Estimated costs with network blockages - 950,000 €/a.

Slovakia:

Plastics debris (including wet wipes and hygien products) - Estimate

Retrieved from sewage systems

- Amount: 4,200 tons/y
- Cost: 500,000 €/y

Retrieved at WWTPs

- Amount: 4,800 tons
- Cost: 600,000 €

Spain:

186.4-279.6m € (2016). To the best of our knowledge, Spain has the highest per capita costs in the EU with 4 to 6 €/person/a.

Sweden:

~ **Screen removals:** Remove wet wipes, sanitary towels and other debris from the screenings in the WWTP and transport to incineration
~ Costs: median value based on nine Swedish WWTP with a total connected population of 2.5m persons (25% of population connected to wastewater treatment plants in Sweden)
~ **kg of screen removal/person/a, screen removal costing = 0.1 €/person/a (interval 0.1-0.3 €/person/a) => a total of 1-3M€/a in Sweden**

~ **Clogging of sewers and pumps:** Flush away plugs / clear clogging of sewers and pumps caused by wet wipes, sanitary towels and other debris / grease.
~ Costs: median value based on seven Swedish WWTP with a total connected population of 2.0m persons (20% of population connected to wastewater treatment plants in Sweden)
~ **Costs clogging= 0.4 €/person/a (interval 0,3-1 €/person/a) => a total of 3-10M€/a in Sweden.**
~ **Total yearly costs in Sweden 3 M€ – 14 M€**

UK: 115m €[3]

Today, the costs for the above-mentioned activities are exclusively borne by waste water operators.

Methodology to determine the costs:

Today, there are no agreed national or European methodologies to determine the economic costs for the waste water infrastructure in relation to article 8.3.

In the following, several EurEau members have shared their thoughts on this topic:

Denmark:

The restricted DANVA survey is based on a questionnaire concerning the supplier experiences with the "wet-wipe-challenge" in daily operations - and their own data without a common, pre-determined definition. In other words, it is not based on ongoing data collection and documentation, and the method is thus associated with uncertainty.

Despite this, it provides a qualified bid for operating costs associated with wet wipes. The overall assessment is that it is undoubtedly wet wipes' fibres that are the main cause of the vast majority of pump stops. It is also the experience of the suppliers that the problem occurs with all types of pumps.

A future method must first and foremost be operational for both supplies and authorities. A solution with an ongoing registration with the utilities will be very costly, and the result will to a large extent be associated with estimates / assessments. In other words, it is difficult / unrealistic to document whether there is a pump stop due to wet wipes, underpants, laces or other material.

The optimal solution would be for the producers to develop on appropriate products. As there seems to be a market failure in this respect, EPR must be applied. The costs could be determined as follows:

- A (national) tax on wet wipes.

[3] Water UK: Wipes in sewer blockage study - Final Report, Report Ref. No. 21CDP.WS (2017)

- The income from the tax is included in a pool controlled by the authorities / an independent body.
- Waste water operators can seek reimbursement on an annual basis for the damage to the waste water infrastructure.
- For the sake of simplification, the distribution of funds could be based on the number of pumping stations -eventually divided into sizes - and not the current operating registrations.

France

The cost calculation could be based on the following elements:

- transport and treatment of plastic waste extracted from the waste water systems (screening and cleaning waste): weight X forks per tonne, varying locally according to quality and destination
- user awareness: range per inhabitant
- network collection, cleaning, screening, interventions to clear obstructions, fight against overflows: share of opex and capex
- sampling, measurements, data processing: specific projects / share of opex and capex
- certain treatments specific to plastics or to the release of polluting products from plastics: specific projects
- indirect impacts in the event of overflows: specific projects

Spain:

No standardised method is in place. The calculation of the economic damage (4 to 6€/person/year) is based on the following methodology:

Waste (kg/year) x Cost (€/kg) = €/year

Where:

- Waste includes:
  - Weight of solids removed in network elements such as pumps and WWTPs
  - Weight of solids removed in breakdown situations or out of service
  - These weights were taken into account where most of the weight was related with wipes or similar items
- Costs include:
  - All costs related to solid removal (staff, equipment, others)

5. How are Member States implementing article 8.3?

Situation as of October 2021.

Country	**Implementation of article 8.3(b)** **Inclusion of littering through the waste water infrastructure in the EPR schemes covering the costs of cleaning up litter resulting from [wet wipes / sanitary products] and the subsequent transport and treatment of that litter**
Austria	The article is not implemented yet.
Belgium	Flanders: Implementation is ongoing. Flanders is considering litter as waste being disposed of on a place where it does not belong and resulting from consumption OUTSIDE buildings. So, they do not consider wet wipes in sewers in the scope of art. 8.3 of the directive. Wallonia: The transposition is on-going under the Waste legislation. The proposed definition of wet wipes covers all types of wipes for domestic use (plastic/non-plastic). The draft law proposes the application of EPR schemes to wet wipes through the contribution to a public fund to be used to protect and maintain public cleanliness. It is still unclear whether the operators of the waste water infrastructures will have access to this fund to compensate the extra-costs they face through the increasing presence of wet wipes in sewers.
Czech Republic	The vote is postponed following the recent general elections. The waste water infrastructure is included in the draft text. *„The producer of selected plastic products listed in point 2 or 3 of Part D of the Annex to this Act is obliged to reimburse municipalities costs for cleaning waste from these selected plastic products, which end users illegally dispose of outside places designated for disposal, including cleaning water infrastructure, and the subsequent transport and treatment of this waste."*
Estonia	The waste water infrastructure is included in the EPR scheme covering the cost of cleaning up, transporting and treating littered wet wipes/sanitary products.
Denmark	The implementation took place in very general terms with more specifications expected through future executive orders. While the government seems open to include the waste water infrastructure in art. 8.3, the Commission guidance paper will be a great importance. Details:

	The relevant paragraph is § 9 t (1) in the Act amending the Environmental Protection Act (ACT no. 786 of 04/05/2021). *It seeks to implement Article 8(3) of the Directive. The first sentence determines that the manufacturer of wet wipes must bear the costs of cleaning up "discarded waste" (litter) and handling it, as well as information measures. (A provision implementing Article 8(3)c on the cost of collecting and reporting data does not appear to have been adopted.)* *The legal authority in § 9 t of the Environmental Protection Act will be utilized in the coming years with the purpose of giving legal effect to the rules concerning wet wipes and expanded producers on 31.12.2024.* *According to two ministerial responses during the law-making-process in parliament, the scope of the clean-up responsibility will be determined in more detail in the EU Commission's guidance, which is being prepared. In the first reply, 14.04.2021, the Minister states that it will depend on this guidance whether the costs of handling waste that end up in sewage systems as a result of toilet use are covered by article 8(1) compared to the restriction in article 8(4), and whether it is to be considered as litter/discarded waste.* *In the Minister's second reply dated 18.04.2021, however, the Minister acknowledges that the Commission's guidance is not legally binding. As there is an expectation that the guidance will be the basis for interpretation of the directive across the EU, the Minister considers it most appropriate that the Danish implementation is in line with these announcements.* *"The government wishes to wait for the Commission's guidelines in relation to whether the clean-up responsibility must also include waste that is disposed of in sewer systems. The law draft provides an opportunity to include it."*
France	France has enshrined the strengthening of the polluter pays principle in the law on the fight against waste and the circular economy: the manufacturer or distributor of a product is also responsible for its end of life. New families of products / waste are created including cigarettes, sanitary textiles (household wipes, disposable diapers, cottons, etc.), construction products and materials. As to the definition of 'littering' and cost recovery, to date, France has not specifically mentioned the sewage systems in its regulations (the waste which reaches the sewer and rainwater networks is 'de facto' included in the general waste provisions). France has transcribed Article 8.3 into the functioning of eco-organisations in charge of waste sectors: bonus malus system, fund for recovery, etc. Application decrees in preparation. **Sources** ici ; ici ; ici.
Greece	The Greek law was already published on 20/10/20. The waste water infrastructure is not explicitly included in the EPR scheme covering the cost of cleaning up, transporting and treating littered wet

	wipes/sanitary products. The specific article for the EPR scheme for wet wipes stipulates the following*:* *"Until January 5, 2023, the producers of these products (wet-wipes) are obliged to either design, organise and operate Collective Special Management Systems (CSMS) of nationwide scope, based on the concepts given in the law on "Packaging and alternative management of packaging and other products" (2001), for all the products they place on the market or to entrust the above organizational responsibility to CSMS operators of different products, regardless of the method of alternative. The obligations of the CSMS bodies include the following:* *a) the design, implementation and cost-effectiveness of awareness-raising measures for the consumers,* *b) the assumption of the cost of waste cleaning actions derived from the products in question and the subsequent transport and treatment of these waste products (wet-wipes),* *c) the collection of data and the submission of reports to relative national bodies, as well as the assumption of these costs, regarding these products (wet-wipes), which are available in the market by producers;* *(d) the implementation of an adequate self-monitoring mechanisms for CSMSs supported by regular, independent monitoring evaluations."*
Hungary	The Government Decree covering art. 8 has not entered into force yet. To this point, it has not been decided whether the waste water network should be covered by art. 8.3.
Ireland	In line with the Single Use Plastic Directive, by 31 December 2024 producers of wet wipes will be subject to an EPR scheme.
Italy	Wet wipes and sanitary products disposed of through the toilets does not seem to present a significant problem in Italy. The waste water infrastructure will not be included in article 8.3.
Netherlands	Wet wipes cause problems of clogging and blocking of sewers and sewer pumps in the Netherlands. It is not yet defined whether these costs will be covered by the EPR scheme for litter in the national interpretation of the directive. The COM guidance will have an impact on the national decision.
Romania	Directive (EU) 2019/904 is not yet transposed into national legislation. A Government Emergency Ordinance in this regard was approved by the government on August 24, 2021. So far, it is still undecided how to implement this article. Perhaps it will not be decided until the Commission guidance becomes available.
Slovakia	Article 8.3 has yet not been implemented in Slovak legislation.
Slovenia	The government issued a decree in August 2021 for the implementation of the SUP directive covering the ban of some single use plastic products and also labeling in some cases – including wet wipes. This decree does not cover article 8.3, nor covers any other legislation EPR schemes for littering with wet wipes and sanitary

	products in the sewer networks. The EU Guidance may have an impact.
Spain	The text is still a law project but it has already implemented the costs caused in the waste water infrastructure. The text was taken from the SUP Directive with one addition, the reference to the sewer and WWTP infrastructure (see below). ***Artículo 60. Regímenes de responsabilidad ampliada del productor.*** *3. En relación con los regímenes de responsabilidad que se desarrollen para los productos de plástico enumerados en el apartado 2 de la parte F del anexo IV de conformidad con el título IV, los productores de producto deberán sufragar al menos los siguientes costes:* a) *los costes de las medidas de concienciación a que se refiere el artículo 61,* b) *los costes de la limpieza de los vertidos de basura dispersa generada por dichos productos, incluida la limpieza en las infraestructuras de saneamiento y depuración (including cleaning of sanitation and WWTP infrastructures), y de su posterior transporte y tratamiento y* c) *los costes de la recogida de datos y de la información, ya sean de recogidas regulares como puntuales debido a vertidos esporádicos o basura dispersa en el medio.*
Sweden	It is still undecided whether the waste water infrastructure will be covered by article 8.3. The Commission guidance is likely to have some impact on the final decision.

About EurEau

EurEau is the voice of Europe's water sector. We represent drinking and waste water service providers from 29 countries in Europe, from both the private and the public sectors. Our members are the national associations of water services in Europe. The EurEau secretariat is based in Brussels.

Our members are fully committed to the continuous supply of clean water and its safe return into the water cycle. We have a role in raising awareness of threats to the water environment. With a direct employment of around 500,000 people, the European water sector makes a significant contribution to the European economy.

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