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Revision of EU Urban Wastewater Treatment Directive – consultation statement from Huseierne

Huseierne* welcome the revision of the Urban Wastewater Treatment Directive. The revision is needed to address the challenges of today and for the coming decades. We support the ambition of reducing pollution from smaller agglomerations, pollution due to rainwater, targeting micro pollutants, track non-domestic pollution at source and improving the governance of the sector.

At the same time, we see the need to prioritize interventions and investments where they achieve the greatest environmental benefits, given the multiple objectives of the proposal and the potential trade-offs among some of them (e.g., between additional treatment and energy neutrality).

We would like to share our views on the following topics:

1. Standardized minimum requirements must not prevent implementing the best overall protection of climate and environment in the different countries.
2. The minimum requirements for secondary or equivalent treatment must be more flexible to ensure the optimal protection of all types of waterbodies.
3. Requirements for tertiary treatment must be risk-based and include natural retention.
4. Nitrogen removal requirements (85 % or 6 mg N/l) is difficult to achieve in cold climate.
5. The requirement for micro pollutants must be risk-based and not only be measured in percentage reduction.
6. The target for storm water overflow is unrealistic.
7. The requirements for monitoring needs updating.
8. Cost benefit and deadlines are unrealistic.

*About Huseierne

The Norwegian Homeowners Association, Huseierne, is a nationwide consumer organisation for owners of private homes (both houses and flats), condominiums and housing cooperatives. In Norway 8 out of 10 own their own home. This is called the Norwegian housing model. Huseierne is working actively to preserve this model, so that as many people as possible can own their own home. The Norwegian Homeowners Association work actively to safeguard homeowners' rights and promote issues of economic and social interest to the country's home owners. We have around 270.000 members.

1. Standardized minimum requirements must not prevent implementing the best overall protection of climate and environment in the different countries

We welcome a strong framework that ensures a healthier natural environment. However, the directive must be flexible enough to allow countries with different challenges, climatic conditions and waterbodies to be able to implement the measures that best will achieve the main objective of the directive – to tackle its remaining pollution and protect the environment.

Norway has different natural conditions than most EU countries. Norway's location in the cold north, settlement pattern, long coastline, and not least the diversity of recipients for wastewater (fresh water and coastal water of varying vulnerability), set us apart from most other European countries.

Norway has the world's second-longest coastline with a total length of about 24,000 km, or approximately half of the way around the Equator. The total amount of freshwater is abundant due to plenty of rain and a low precipitation compared to warmer countries. The ratio of treated wastewater to the recipient water is normally very low and there is normally no need to use the same waterbody as a source for drinking water.

Norway has vulnerable freshwater lakes and rivers as well as and threshold fjords, which are naturally low in oxygen. These will require a high level of protection. There are also large rivers with high water flows, low water temperatures and naturally high oxygen content, and deep fjords with good water exchange and almost open sea. Different natural conditions require adapted requirements for the treatment to achieve the best environmental protection and the most sustainable wastewater treatment.

As Norway is not a member of the EU, we cannot expect the directive to be revised with Norway's specific challenges in mind. But as the current directive is implemented in Norway it is important that the revised directive also will enable Norway to implement the solutions that will resolve our remaining challenges, and not only cater to the need in other European countries.

The Norwegian wastewater treatment policy has been tailored to meet national environmental quality objectives and meet and safeguard good status in the waterbodies, as set out in the Water Framework Directive. In addition, the competent authority granting wastewater discharge permits set stricter requirements, whenever this is needed to achieve good status.

The proposed minimum requirements for treatment are not adapted to the needs of the Norwegian water bodies. It could lead to a large environmental footprint, without the corresponding increase in the protection of the water environment, and at excessive costs. The minimum requirements must therefore be more flexible, without compromising the environmental goal for the waterbody.

A main principle should be that requirements for treatment is based on the target of achieving good condition in the water body as required by the WFD, protecting public health and safeguarding user interests. An advanced level of treatment solely because it is technologically possible is not sustainable. Stricter treatment requires large investments to build new treatment plants with associated climate footprints. Operation of more advanced treatment plants also requires an increased use of input factors, such as energy and chemicals, in addition to the need for qualified operators. We fear that strict treatment requirements with little or even negative environmental

benefits in some areas will decrease people's support of environmental protection and increases the risk of reduced trust in environmental policies.

2. The minimum requirements for secondary or equivalent treatment must be more flexible

The requirements set out in Annex 1, Table 1, must not be the fixed minimum standard for all wastewater treatment in agglomerations > 1000 pe.

The requirement for wastewater treatment (Article 6) is only addressing the reduction of organic matter (Table 1), it is not risk based and does not assess the actual need of the receiving waterbody.

The 1991 UWWTD opens for applying less stringent treatment, primary treatment, from agglomerations from 10 000 pe when discharging to coastal areas providing that comprehensive studies indicate that such discharges will not adversely affect the environment. Treatment plants in agglomerations below 10 000 pe in such areas must have appropriate treatment. The current directive also acknowledges that biological treatment is more difficult at low temperatures and exempts the biological treatment requirement for high altitude areas (over 1,500 meters above sea level), characterized by cold climate. The new proposal lacks these exceptions and demands that all treatment plants in all agglomerations from 1 000 pe must obtain the requirement in Table 1. This requirement is not risk based nor targeted to the specific needs of the receiving water body. We ask that equivalent treatment in Article 6 should be a treatment that achieves the same level of environmental protection in the waterbody as secondary treatment and include nature-based solutions.

A large number of treatment plants in Norway discharge wastewater to waterbodies and coastal waters that are nutrient-poor and exhibit high water flow, low water temperatures and a naturally high oxygen content. The proportion of discharged effluent to the waterbody is also often very small. Water quality in these areas is not affected by small discharges of biodegradable substances and upgrading to the type of water treatment required by the proposal would not entail any measurable changes to the aquatic environment.

The reduction of phosphorus can give better environmental protection than the removal of organic matter. For many oxygen-rich water bodies, which are not sensitive to biological matter nor nitrogen, the best protection of the water body is achieved by reducing phosphorus. The reduction of 90 % phosphorus is already the standard requirement in the Norwegian legislation for wastewater treatment plants in normal and sensitive areas. We ask that obtaining the requirements for phosphorus removal in Table 2 should qualify as equivalent treatment to secondary treatment and Table 1, as it will give equal (or better) protection of the aquatic environment.

The proposed treatment requirements in Table 1 will for many less sensitive coastal areas entail negative environmental impact without the corresponding environmental benefits in the waterbody. Today most of the coastline from Lindesnes to Grense Jakobselv (the Russian border in the north) is classified as less sensitive according to the requirement in the current directive. Under current regulations, many of these coastal waters are already in good condition, meaning that there are in principle no remaining challenges regarding discharge of organic matter from treated wastewater. Appropriate or primary treatment should still be sufficient in these areas where studies show that small discharges of biodegradable substances will not affect the environment and the type of water

treatment required by the proposal would not entail any measurable changes to the aquatic environment. In these areas it will be more sustainable to let the biological degradation occur naturally in the waterbody than to move this process into a wastewater treatment plant where it is necessary to add a lot of energy for the same job.

The environmental impact of building and operating more advanced treatment plants in these areas, will be much higher than the benefits of more advanced treatment. It is unreasonable and not sustainable for treatment plants in such coastal parts of Norway to be subjected to an equally strict regulatory framework as would stand in other parts of Europe, where discharges of organic matter from wastewater carry a large environmental impact.

3. Requirements for tertiary treatment must be risk-based

All requirements for tertiary treatment should be risk based with the aim to protect the environment and ensure a sustainable, efficient and environmentally sound investments.

The requirement for nitrogen removal for plants with a load of more than 10 000 pe in the catchment area of sensitive areas must include an assessment of the contribution of the pollution load and natural retention.

Discharge requirements should be based on an assessment of how much of the nitrogen in the effluent that reaches and affects the area sensitive to eutrophication. The amount of nitrogen that is retained or degraded along the way, must be included as part of the decision-making. This is especially important in countries where the discharged wastewater flows through long rapid flowing rivers and passes through large lakes before reaching the sensitive area. There are good models that can be used to assess the natural retention for the discharge from treatment plants in the catchment area.

Building and operating treatment plants with nitrogen removal has a relatively large climate footprint, especially under cold climate conditions with a low inlet temperature of the water. Nitrogen removal under cold climate conditions requires more energy but also more volume of treatment capacity at the UWWTP. The risk of increased losses of nitrous oxide will also be higher when nitrogen removal takes place outside of its process optimum. Nitrogen removal should therefore be applied where it will have a positive effect on the sensitive area that are to be protected.

The environmental benefits of the nitrogen removal requirement are therefore disproportionate to their associated costs.

4. The requirement for nitrogen removal is too high in cold climate

The removal of nitrogen is important, but the proposed minimum requirements for nitrogen removal in Annex 1 Table 2 must be less strict when the incoming water is cold.

Nitrogen removal requires a biological process, which takes place at a slower rate in cold water. The temperature of the incoming water can in many places in Norway be as low as 5-6 degrees Celsius. Nitrogen removal in such conditions require a higher hydraulic retention time, higher energy demand and the addition of an external carbon source, to achieve the same results as in warmer European countries. The proposed requirements will be extremely demanding and costly to achieve and must be weighed against the added environmental benefits to the receiving water.

The minimum requirements for nitrogen must be at a lower level and it should be differentiated based on the size of the treatment plant and inlet water temperature.

The minimum requirement should be lower and/or differentiated, based on facility size and water temperature. In the current directive, the requirements are differentiated based on facility size, where facilities in densely populated areas under 100 000 pe have less strict requirements (15 mg/l) than facilities over 100 000 pe (10 mg/l) nitrogen removal. However, the environmental goals can often be achieved without the very high requirements proposed.

5. The requirement for micro pollutants must be risk-based and not only be measured in percentage reduction.

We welcome the reinforcement of control at source as the most effective way to tackle micro-pollutants and the Extended Producer Responsibility (EPR).

The requirement for quaternary treatment is reasonable where the wastewater is discharged to an area where the concentration or the accumulation of micro-pollutants represent a risk for human health or the environment. However, an absolute requirement for all plants treating a load of 100 000 pe or above is not well justified. Quaternary treatment will require significant investments, are energy demanding and increase the climate footprint of the plant. The requirement for quaternary treatment should also for plants of 100 000 pe and above be based on a risk assessment to map the environmental need and ensure that it is implemented where it will give the greatest benefits to the environment.

Furthermore, the requirement is set as 80% removal of a mix of organic substances set out in table 3 in Annex 1. This does not take into account that, for some plants, the inlet concentrations of the indicator substances listed in the Table 3 of Annex 1 can be extremely low, making the reduction of 80% difficult and resource-intensive to achieve. According to a footnote to table 3, if less than six substances can be measured in sufficient concentrations, the competent authority shall designate other substances to calculate the minimum percentage of removal when it is necessary. However, what a sufficient concentration is and which substances that can be chosen instead, is not clear. We ask that the requirement in table 3 for quaternary treatment is adjusted so that plants with a low inlet concentration of micro pollutants must not achieve the same percentage of reduction as plants with a high concentration, as it is the concentration in the effluent that is of concern for the environment. The requirement should therefor include concentration as an alternative parameter.

6. The target for storm water overflow is unrealistic

We welcome the requirements for integrated urban wastewater management plans, with the aim of reduced pollution from storm water overflows from and urban runoff. However, determination of targets and deadlines should be left to the countries, based on the needs of the water body.

The suggested content of an integrated urban wastewater management plan in Annex 5, states that a maximum discharge of 1 % storm water overflow shall be an indicative target. When a deadline is set for achieving the target, it appears no longer as indicative, but as a requirement. Reducing storm water overflows to below 1 % based on dry weather conditions (Annex 5, point 2) is unrealistic.

A requirement of a maximum of 1 % overflow based on dry weather conditions would require huge investments in existing infrastructure of collecting systems. In addition, large buffer volumes must be

built to be able to cope with extreme rain and water from snow melting. Most cities and towns are already built, without any available area to establish a sufficient buffer volume. It is not desirable to dig up all the infrastructure that will be required to reach a target of 1 %.

Discharges of polluted water via runoff and storm water overflows are undesirable and it is important that good and targeted work is done to reduce these the emissions which in many places also go to vulnerable recipients. Determination of specific targets and deadlines to reduce the amount of storm water overflows and discharges, should nevertheless be left to the countries, based on the needs of the water body. It should be integrated with methodology established in accordance with the water framework directive.

It is also unclear who will prepare these integrated plans since the boundaries are determined from the term agglomeration. The requirement neither follows municipal boundaries nor treatment plant.

7. The requirements for monitoring should be updated and modernized

The requirements for monitoring and verification of compliance needs updating to not hamper good solutions.

Monitoring and verification of compliance is very important, but several of the requirements in part B and D of Annex 1 should have been updated in the revised proposal. The requirements are adapted for traditional sampling at conventional sewage treatment plants and can act as a hindrance to new technology and new solutions. That is unfortunate.

The directive must acknowledge the use of alternative methods for monitoring, so that requirements for sampling of the treated effluent do not hinder nature-based solutions, such as infiltration. Annex 1 Part B require that all wastewater treatment plants must be designed or modified so that representative samples of the incoming wastewater and of treated effluent can be obtained before discharge to the receiving waters. Fixed sampling requirements must not prevent the use of good nature-based solutions if these can verify and document their treatment and discharge in a satisfactory but alternative way.

The directive should also open for alternative methods for wastewater treatment plants to verify the results and compliance with the directive, such as on-line meters or the use of other operating parameters. We must expect a future development in on-line measurement and analyzers for several parameters that can be a good alternative for documenting operation of the plants and outlet concentrations. It is unfortunate if old formulations and methods in a directive will render such solutions unusable.

The proposed number of traditional samples in the proposal is very high and online instruments can be a good supplement or substitute for traditional sampling. Traditional sampling requires personnel to do the sampling and the samples must be transported to and analyzed at a laboratory. The proposed sampling regime will lead to a significant increase in costs for the larger plants that will get a requirement for daily sampling and for all plants over 50 000 pe that will have to take two samples per week for micropollutants. Larger treatment plants have advanced operational control systems that help to capture incidents/abnormal operation that can be followed up with internal analyses. The number of traditional control samples should therefore be able to be reduced.

Requirements for both secondary-and quaternary treatment are set so that only one single failed sample can result in the treatment plant not being compliant that year. For secondary treatment none of the failing samples taken under normal operating conditions can deviate from the parametric value by more than 100%. For quaternary treatment each sample taken shall conform to the parametric values set in Table 3. Plant from 50 000 pe are required to take 104 samples each year and if 1 of 104 fail the quaternary treatment is not compliant. One such sample will not reflect the operation of the plant for the year and such requirements should therefore be avoided.

8. Cost benefit and deadlines

The proposed cost is too low and the deadlines unrealistic.

The implementation of the requirements established in the proposal will lead to a significant increase in costs. The total costs (CAPEX+OPEX) in the Impact Assessment seems underestimated. In a report from 2021, Norwegian Water (Norsk Vann) calculated the necessary investment needs for the wastewater sector in Norway to 17 billion € for the period 2021 – 2040. This was based on the current state of the sector, and regulations in the current WWTP and Norwegian regulations. The main proportion of the costs are connected to upgrading the collecting and conducting system. Already when the report was released, in January 2021, concerns were raised from Huseierne, the Norwegian Houseowners Association, about the capacity to be able to achieve all the necessary investments and improvements. The proposed revision of the directive has increased these concerns.

Housing costs in Norway have risen sharply in recent years. Huseierne are deeply concerned about home owners' private finances.

It will not be possible to achieve many of the deadlines in the proposed directive. There is not enough time or necessary resources available to be able to plan and build all the required wastewater treatment plants in such short time. We are also concerned that strict deadlines will result in an allocation of all resources towards meeting these deadlines and that more urgent measures must be de-prioritized. Short planning time will also lead to solutions that are rushed and not optimal or most sustainable. The deadlines in the proposal must be adjusted so that they are realistic compared to the work that are required.

With regards

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General secretary

Huseierne