

National sustainability strategy for the water industry

(adopted by the AGM 2017)

The role of the water industry in sustainable development

The water industry provides water and sewerage services to consumers and businesses and therefore manages one of our most important resources in a sustainability perspective: clean water. The industry must ensure that there is enough and clean water coming from the tap, return purified water to the water cycle and use the resources contained in waste water in the best possible way. Our drinking water supply is an important natural resource that must be protected for the benefit of current and future generations. The water industry also plays a central role in climate change adaptation and in preparing society for dealing with more extreme precipitation episodes. We also owe it to the coming generations to maintain and leave behind an infrastructure that is in a better shape than when it was handed to us.

This important work must be carried out in a sustainable manner and with installations of a good standard to ensure good functionality and a long lifespan. The social responsibility that this entails is also a commitment and an opportunity to create favourable conditions for sustainable communities and businesses as well as growth and development for the country as a whole.

The water industry's sustainability efforts are founded on the UN's sustainable development goals for 2030, of which goal number 6 is particularly pertinent: "Ensure availability and sustainable management of water and sanitation for all." The Norwegian government reports on Norway's attainment of the UN sustainable development goals in its annual budget and in a number of sustainable development and climate change fora. The reporting includes data on annual greenhouse gas emissions from sewerage systems, amongst other things. The efforts made by the water industry in relation to sustainability will improve the accuracy of the reporting.

The industry can play a key role in the green shift and in transforming Norway into a competitive low-emissions society. The production of water and sewerage services generates an annual turnover of around NOK 18 billion, and municipal water and sewerage systems will require an estimated NOK 280 billion of investment in the period leading up to 2040. Big investments in water and sewerage infrastructure and climate change adaptation in the coming years will encourage innovation and the development of sustainable solutions with a domestic and global market.

Sustainable development in the water industry must be founded on society's overarching obligations and goals in addition to those of the industry itself. The industry must of course satisfy laws, regulations and emissions permits.

The industry is already doing much good work on sustainability, and some enterprises have already set their own sustainability goals which they document and publish, while others still have some way to go.

Definitions

"Enterprise" in this document refers to "local authorities, municipal companies/businesses and/or co-operative waterworks supplying water and/or sewerage services".

The term "sustainability" was defined in Norsk Vann's report 205/2014 "Sustainable Management of Water and Sewerage Services" to include the three dimensions *economic*, *environmental* and *social* sustainability:

- Environmental sustainability – management and development within nature's tolerances
Water and sewerage services must be provided in a way that minimises all negative impact on the environment. Environmental factors must be an important parameter when planning and implementing measures for the construction and operation of water and sewerage systems.
- Economic sustainability – sustainable use of resources, including cost-efficient solutions
The water industry is facing considerable challenges in terms of renewing existing systems, while challenges concerning climate change, security etc. are resulting in significant investments in new water and sewerage systems. Sustainable use of resources thus requires good systems in order to generate optimal water and sewerage services from the resources available to us.
- Social sustainability – sustainable water and sewerage services for users
The social perspective in this definition of sustainability looks at the plant owners' services to the users of the water and sewerage systems and how they perceive these services. Expertise and working environment factors also fall under the social dimension.

Sustainability goals

Sustainable development is an opaque and difficult concept to many. In order to understand what sustainability in the water industry entails and to measure success, we must set goals and indicators that are relevant both nationally and to each individual enterprise in the industry. These goals and indicators must be further developed in the coming years as new knowledge and changing framework conditions come to affect both perspectives and ambitions.

The national sustainability strategy for the water industry contains one overarching goal as well as several subsidiary goals which have come about as the result of an extended process. The national goals should provide inspiration for each enterprise, which in turn should set its own concrete sustainability goals based on local circumstances and conditions.

The overarching goal and subsidiary goals are described below, each with a brief justification. The subsidiary goals are not set in stone and must be revised as we gain new and better knowledge of sustainable practices and begin to understand what the industry can realistically achieve nationally within the time frame in question.

Overarching goal

The Norwegian water industry shall manage and develop the water and sewerage infrastructure in such a way as to ensure clean water from the tap and in nature and help ensure that Norway meets its sustainable development goals.

Comments: Norway's concrete sustainable development goals are linked to the UN's sustainable development goals, of which goal 6 is particularly pertinent to the water industry: "Ensure availability and sustainable management of water and sanitation for all." Sustainable development is also addressed in various regulations and framework conditions nationally, e.g. the objects clause of the Planning and Building Act which is key to all land management and construction activity in Norway: "The Act shall promote sustainable development in the best interests of individuals, society and future generations."

Subsidiary goal 1 Greenhouse gases

As many enterprises as possible shall provide climate change accounts by 2020. On that basis, a plan for reducing the industry's combined emissions shall be drawn up by 2030. In the period 2017–2018 Norsk Vann shall work with central government to produce methodology to this end.

Comments: Norway has committed to reducing greenhouse gas emissions by 40% by 2030, and it is being proposed that the water industry take its share of the responsibility by helping to reach this goal. However, more information about the water industry's contribution is needed before concrete goals can be set. This subsidiary goal particularly concerns the environmental sustainability dimension.

Subsidiary goal 2 Energy

By 2030 the water industry shall at least halve its energy consumption compared with 2014 levels by taking energy efficiency and energy production measures.

Comments: In 2014 water and sewerage services accounted for around 11% of municipal energy consumption, cf. Norsk Vann's report C10/2016 Energy Analysis of the Norwegian Water and Sewerage Sector. The water industry has the potential to become energy-neutral by implementing measures relating to energy efficiency and the production of renewable energy, e.g. by using heat pumps and producing biogas. This subsidiary goal particularly concerns the environmental and economic sustainability dimensions.

Subsidiary goal 3 Emissions into waterbodies

Enterprises shall comply with prevailing emission limits and thus help meet the goals on good environmental status set out in the Water Regulations.

Comments: It goes without saying that regulatory requirements must be met, yet it poses a considerable challenge as many sewage treatment plants do not satisfy emission standards. This subsidiary goal particularly concerns the environmental sustainability dimension.

Subsidiary goal 4 The functionality of the pipe network

4.1 By 2020 as many enterprises as possible shall have drawn up plans for reducing leakage from water pipes to a sustainable level. For the industry as a whole, leakage levels shall be below 20% of total water production by 2030.

Comments: The new drinking water regulations state that the distribution system must be in a satisfactory condition and help ensure sustainable use of groundwater and surface water. Norsk Vann will be developing methodology to enable each enterprise to determine what constitutes sustainable leakage levels through a project taking place in 2017–2018. The goal of max. 20% leakage by 2030 is a preliminary national target whereby each enterprise must set their own targets according to their respective circumstances. The national figure should be revised as we obtain better knowledge of local actual sustainable leakage levels amongst the enterprises. This subsidiary goal relates to all three sustainability dimensions: environmental, economic and social.

4.2 As many enterprises as possible shall have drawn up plans for reducing inflow/infiltration by 2020. For the industry as a whole, the proportion of inflow/infiltration shall be reduced to below 30% of total input to sewage treatment plants by 2030.

Comments: New emissions permits emphasise the function of the entire sewerage system and demand multiple measures be taken to better control both input to the sewerage system and emissions. This can help reduce energy consumption and the use of chemicals as well as emissions into water and the risk of basement flooding. The goal of a 30% reduction in inflow/infiltration by 2030 is a preliminary national target whereby the enterprises must set their own targets according to their respective circumstances. The national figure should be revised as we obtain better knowledge of local inflow/infiltration levels amongst the enterprises and of the consequences of different levels of ambition. This subsidiary goal relates to all three sustainability dimensions: environmental, economic and social.

Subsidiary goal 5 Renewing the pipe network

By 2020 as many enterprises as possible shall have drawn up plans for renewal of the mains and sewer networks based on their status and local circumstances. At a national level the mains network shall be subject to a rate of renewal of 1.2% leading up to 2040. At a national level the sewer network shall be subject to a rate of renewal of 1.0 % leading up to 2040.

Comments: Specific needs for renewing the mains and sewer networks will vary significantly from enterprise to enterprise and must therefore be defined in more detail locally. Nationally, a rate of renewal for the mains and sewer networks has been proposed by the water industry following extensive analyses as a benchmark for sustainable renewal in order to maintain an acceptable level of functionality and avoid leaving the networks in a worse shape for future generations. It is being proposed, therefore, that these renewal targets be continued at a national level until new and potentially better analyses are available. This subsidiary goal particularly concerns the economic and social sustainability dimensions.

Subsidiary goal 6 Robustness

Unplanned disruptions to the water supply shall not occur more than once every 10 years per customer on average.

Comments: This subsidiary goal concerns both the users' perception of acceptable regularity in the water supply and the hygienic safety of the supply. The subsidiary goal includes measures to improve security of supply such as dual supply, increasing reservoir volumes and ensuring good and accessible reserve water supply. The subsidiary goal should be revised once an agreed national robustness indicator has been adopted through bedreVANN. This subsidiary goal particularly concerns the social sustainability dimension.

Sustainability at individual enterprises

All enterprises are encouraged to start the sustainability process based on their respective circumstances and local conditions, since topographical, geographical, climatic and demographic factors will vary significantly. The first step is to identify their own sustainability potential as a starting point for setting local goals. To help with this, we recommend looking at the national goals as well as recommendations made in relevant Norsk Vann reports and guidelines.

Sustainability indicators

A set of sustainability indicators will be adopted by bedreVANN in order to measure attainment of each goal and subsidiary goals set by the enterprises themselves. Much of the information already being reported to national platforms such as bedreVANN and KOSTRA is relevant to defining a set of appropriate sustainability indicators for the water industry. It must be developed further to create a menu of relevant indicators which highlight the relationships between relevant subsidiary goals and relevant indicators. Documentation of the effects of the measures taken through bedreVANN will in turn help with making the right priorities for developing more sustainable water and sewerage services.

The long-term goal is to establish an institutionalised, overarching “sustainability index” for the water industry through bedreVANN. Work on developing the sustainability indicators will take place under the auspices of the bedreVANN partnership in step with the implementation and development of the sustainability goals both nationally and locally. The work will take place in the form of a separate subsidiary project for testing potential sustainability indicators in 2017–2018.

Communications

The work carried out on sustainability must be communicated at different levels in order to achieve the desired effect:

- Internally at the enterprise
- To the owners of the enterprise (administration and politicians)
- Externally
 - Locally by the individual enterprise
 - Nationally by Norsk Vann

The bedreVANN communication and information tool will be developed further in line with the needs identified above and with the development of the sustainability indicators.

The next step for the sustainability strategy

Developing sustainable water and sewerage services will take years, and the process will reflect changes to external framework conditions and the development of industry-specific ambitions, knowledge, methodology and tools.

The national development initiatives will be incorporated into annual action plans for Norsk Vann, into annual priorities in Norsk Vann’s project system and into the development plans for bedreVANN. Local initiatives will take place based on national requirements and on locally adopted goals and ambitions for each enterprise.

Norsk Vann will continue to develop the sustainability initiative in the water industry by:

- Revising the sustainability strategy, including specific subsidiary goals, once new knowledge permits and with adequate input from Norsk Vann's members and governing bodies
- Help implement and further develop relevant sustainability goals for the water industry to serve as guidelines and inspiration for the work carried out locally by each enterprise
- Lobby for better regulatory framework through an established system for lobbying nationally and in Europe
- Exert influence in order to make national reporting systems for sustainability and climate change as relevant as possible and based on data that the water industry deems relevant
- Further develop the toolbox with guidelines and examples of good practice to increase the quality of knowledge and methodologies and encourage sustainable measures and solutions locally
- Develop bedreVANN to include a menu of relevant sustainability indicators that reflect the subsidiary goals
- Develop bedreVANN as a communication and information tool for the sustainability strategy nationally and locally
- Make sustainability a priority in relevant professional fora and information channels such as seminars, the Norsk Vann annual conference, the *Vannspeilet* magazine etc.