

## Stricter regulatory goals improve Danish waste water systems

*A government decision from 1987 spurred an innovative process in developing new technologies to modernise sewers and waste water systems in Denmark. As a result Danish waters are now significantly cleaner.*



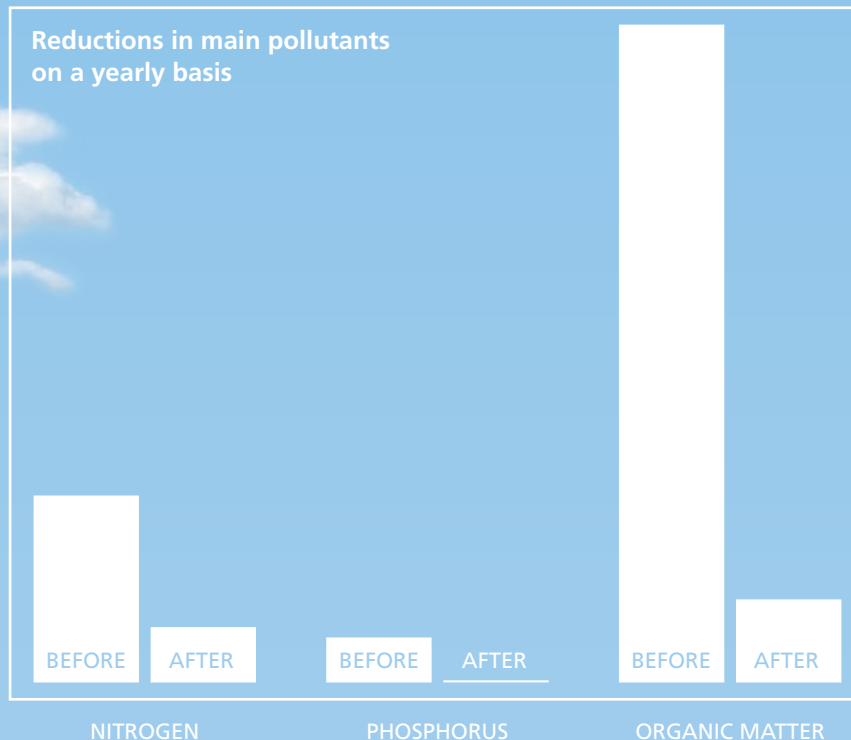
Advanced technology to reduce emissions of pollutants from treatment plants, computer-controlled storage tanks to reduce storm water discharge and a new generation of mini-treatment plants to reduce emissions of pollutants from waste water in rural areas have all contributed to improving significantly environmental conditions in Danish waters.

Up until the late 1980s Denmark experienced fish deaths as a result of extensive oxygen depletion in many waters. The pollution led

to public uproar and the Danish government produced an action plan for Danish waters in 1987. The action plan, the first of its kind in Europe, included stricter criteria for waste water treatment for the main pollutants; organic matter, nitrogen, and phosphorus. These stricter criteria transformed Denmark into a market leader for innovative waste water treatment technology.

For 20 years, Danish municipalities, who manage sewers and waste water plants in Denmark, have been

at the forefront of the change towards improving the quality of water. Implementation has been in three steps. Firstly, an innovative technology for reducing discharges from treatment plants in larger cities, with particular focus on nutrients, has been taken into use. Secondly, storage tanks for storm water have been built, and finally, management of waste water in rural areas has been improved.



Unique cooperation between Danish universities, companies, government and municipalities has ensured large improvements in water quality, and the development of more effective technology for waste water treatment. With the many different actors working in the field, a clear definition of roles and responsibilities became a key to the current success. An important programme to upgrade the qualifications of sewage-systems personnel optimized proc-

esses and operations. Today the water in the Port of Copenhagen, for example, is clean enough for swimming and a couple of pools have been established in the Port.

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