Restore our water, restore our earth  
**22-Apr-2021**

‘Restore our earth’ seems to be an apt theme for this year’s Earth Day. One of the significant steps we can take towards strengthening our planet is to restore our water sources. While we may never run out of water, it is important to remember that clean water is not always accessible in many parts of the world. According to the World Bank Water, while 71% of earth's surface is water and 4% is freshwater, only 0.5% of that is safe for human consumption.

Surface water and groundwater are the key sources of our freshwater. In Denmark we are lucky to have an abundance of ground water, and we are one of the most groundwater dependent countries in the world. In fact, 99% of the country’s drinking water comes from groundwater.

Another very unique aspect is how we in Denmark consume clean water - whether is it for a cold glass of water, laundry, toilet flushing or production, we use the same high water quality. It is a quality that few countries in the world enjoy. But for each year the levels of water pollution are growing and the access to clean drinking water can no longer be taken for granted.

According to a recent Boston Consulting Group analysis, Denmark can be challenged on clean water before 2050. Today, more than half of the Danish groundwater samples contain pesticide residues, while approximately every fourth is above the permissible limit value.

However it was heartening to see that in 2019, a Danish agreement was backed by a broad group of political parties and was implemented to improve the protection of the exceptionally clean groundwater in the country. With this new agreement, Denmark took an important step towards implementing the world’s best protection of clean drinking water. Further, this agreement takes an important step towards phasing out pesticides close to drinking water drillings. Post this agreement, the Danish groundwater has also been screened for even more pesticide remains than was done before.

The Danish groundwater reserves are a very valuable resource and we need to take immediate action to protect it. We have the responsibility to safeguard water not only for our citizens now but also for the future generations who will inherit it. Through the adoption and usage of smart technologies, comprehensive policy-making coupled with workable regulations and public-private collaboration it is possible to not only safeguard but also restore our water sources.

We need an integrated and sustainable approach to water resource management that can secure water for all sectors. The first step is the accurate mapping of our groundwater and creating a credible groundwater model that safe guards against over-extraction from the wells. Since 1998, Denmark has had a programme that began with hydrogeological investigation and groundwater mapping to help create a stable and sustainable water supply.

If we are to make optimal use of every drop, we need to reinforce multiple solutions to these challenges. One thing is simply to use less water. In general, we need to have an increased focus on the technological solutions, which for instance can help us detect leakages and prevent waste of water, and to promote circular water practices such as reuse of water. Technology is however only one part of the solution, the other is the mind-set that is required among both decision makers and consumers.

The European Union (EU) in 2020 set new rules that aimed to ensure better drinking water and less waste. This decision will lead to less water wastage and improving the availability of cleaner drinking water throughout the EU. Luckily for Denmark, we already that the solutions needed to ensure drinking water and limit water loss according to this revised directive. We are already operating with one of the lowest percentages of NRW in the world at just 8 percent. Also, with policy, technological improvements and behavioural changes regarding water in Denmark, water consumption has gone down almost 40 per cent since 1980.

A great example can be found in Nye, a new sustainable and water-wise suburb in Denmark that has a sustainable and holistic approach to water management. Nye is integrating nature and water, protecting streams and groundwater, as well as safeguarding against extreme weather events. While its first residents started moving in in 2018, in the long term the city will have approximately 15,000 inhabitants. Throughout the city’s development, rainwater has been treated as a valuable resource and as the starting point for holistic water management within the city. Rainwater is the primary source, and drainage water is used only during periods when rainwater is insufficient. The treatment plant uses the ‘raw water’ from the nearby lake that is rain-fed, where it is purified to a quality acceptable for its intended use through a three-step treatment process before being distributed to the area’s homes in a separate pipe network. This is the first place in Denmark to do so.

It is critical to secure enough fresh water for all parts of society in a sustainable way while protecting water resources from pollution and overuse. Many of these challenges related to water supply, water quality and wastewater treatment can be avoided or reduced through integrated water management and an intelligent approach to the entire water cycle.

Backed by political support, Danish water companies, utilities and organisations are working together to create more innovative solutions which will lead to added value for both consumers and society as a whole. These collaborative initiatives are also enabling Denmark to find solutions that can address the major water challenges of the world as well. We at Grundfos are also doing everything it takes to get water to everyone, both in Denmark and in the rest of the world.

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