

Wastewater Treatment: An Undervalued Driver of Sustainability

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Wastewater is no longer waste as innovation and holistic thinking enables water reuse and resource recovery.



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This year UN World Water Day focused [on treating, reducing and reusing wastewater](#). This focus makes very good sense. 80 percent of wastewater generated by society flows back into the ecosystem without being treated or reused, and wastewater treatment is still considered a burden almost everywhere on the entire globe.

It doesn't have to be this way though. Water and wastewater treatment plants have become more efficient and innovative, improving their processes and maximising output use by recovering energy and nutrients, recuperating organic matter and producing clean, reusable water – that is sometimes even drinkable – instead of simply regarding it as waste.

These plants are also becoming multifunctional, providing an integrated treatment approach that not only cleans wastewater but also recovers its resources.

A good business case

Investing more time and money in improving waste water treatment can be a major driver of sustainability on a global scale and therefore an important step in [reaching the UN Sustainable Development Goals \(SDGs\)](#). And the good news is that it can also be a very good business case.

A prime example is [Harvest Power's Energy Garden](#) (one of Ramboll's projects) in Central Florida, an organic management and renewable energy facility and the first of its kind in the USA. It helps businesses and communities across central Florida reduce and reuse organic material, increase renewable energy production and revitalise soil to boost local agriculture. Restaurants, hotels and food processing facilities throughout the region are now able to send food scraps to the Energy Garden. The Walt Disney World Resort was the facility's first customer.

Ramboll has similar projects in other parts of the world. In Copenhagen we are focusing on recovering gas from wastewater for [Biofos, Denmark's largest wastewater treatment company](#); one of their plants is selling two-and-a-half times more energy units than it consumes.

Reuse and reduce

Globally, three trends are instrumental in this innovation. Firstly, cities, farmers and industries are becoming increasingly motivated to produce reusable water from waste water. In many cases wastewater can be a source of drinking water, raw material recovery, irrigation, and industrial water reuse.

Secondly, reducing water usage is steering decisions in both the private and public sectors. Cities are striving to efficiently meet demands of increasing populations. And sustainability goals, coupled with economic and reputational benefits, are driving industries to reduce raw water intake.

And thirdly, increasing concern regarding the removal of pollutants such as perfluorinated chemicals, pharmaceuticals and volatile organics is forcing advanced wastewater treatment implementation. A [good example of this is in Mikkeli, Finland](#), where the local water utility – another one of Ramboll's clients – is replacing its existing wastewater treatment plant with a new underground, state-of-the-art facility to remove pollutants and provide treatment efficiency.

Education is needed

We need to focus on three important areas:

Education: Governmental bodies and consultancies must work to ensure that local governments and utilities are well equipped with the knowledge necessary to make the most effective decisions while maintaining environmental stewardship goals.

Incentives: Wastewater treatment doesn't always have a 'market price'. How do you measure green employment, social well-being and or human and ecological health? It is our responsibility to work with and educate the public to ensure all aspects of providing a sustainable environment are met.

Smarter thinking: New, innovative and holistic approaches to wastewater facilities, infrastructure and so on allow us to not only take on the most complicated technical wastewater challenges but also to find success with economical, low-end technologies in parts of the world where these challenges are not only technical, but social and economic.

We hope that the focus on wastewater treatment will continue beyond World Water Day 2017 in terms of sustainability and [how to reach the SDGs](#). As a leading consultancy, we have put sustainability at the core of our business strategy and will do our best to improve wastewater treatment all over the world.
