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## Spotlight

### Interview with Claus Paludan Hynkemejer Team Manager, VCS Denmark

**PUB: Please tell us about yourself and the organisation that you work in.**

**Claus:** I am a team manager at VCS Denmark, and have been for 8 years. My responsibilities lie in the areas of supply and distribution of drinking water, and include daily operations, maintenance of wells, waterworks, pressure stations and elevation tanks. VCS supplies drinking water in the city of Odense (the third largest city in Denmark), as well as in a neighbouring municipality. VCS Denmark also handles the wastewater from 229,000 inhabitants, and we contribute significantly to the climate adaptation efforts in our supply area.

VCS Denmark is also involved in a number of development projects in the areas of supply and distribution of drinking water and wastewater management. Personally, I am currently involved in a project aimed at improving filter operations – a project that is carried out in collaboration with one of the other major Danish water utilities and a number of other project partners. The project includes optimisation of backflushing of filters, optimisation of filter materials, gaining new insights regarding bacteria in filters and designing of filter vessels.

Another major VCS activity is the providing of for-fee services, knowledge and know-how, both nationally and abroad. Locally, we operate several private waterworks and we also carry out inspections and maintenance of wells and boreholes.

Our international activities have included sending employees abroad to carry out various training and education programmes. We have provided professional counselling in several areas, including: leakage detection in drinking water distribution networks, operation of waterworks, wells and boreholes, wastewater treatment, sewage systems etc.



*A VCS well placed in Elmelund Forest, where the groundwater aquifers are protected by afforestation*

**PUB: Could you tell us more about the situation of the water sector in Denmark? Which issues in particular do you think are most important/are most pressing?**

**Claus:** Climate change is naturally a major concern in Denmark – just as it is everywhere else in the world. In our part of the world, we will experience heavier rainfalls more often than we do today. The increased amounts of stormwater already pose a major challenge, both in our stormwater systems and, particularly, in our wastewater treatment plants.

One of the solutions to mitigate increased precipitation is to separate stormwater from wastewater systems, so that it is handled in its own system, e.g. so that stormwater is led into recipients (harbours, streams or other water bodies) in a controlled manner, through retention or detention systems.

We have already embarked on a number of climate adaptation projects. In close collaboration with the local municipalities, we are currently establishing SuDSs that handle stormwater in ways that reduce the risk of capacity overload in our wastewater systems. The implementation of SuDSs necessitates the involvement of citizens, as such solutions often require that stormwater runoff is handled on the citizens' private properties, where we are not authorised to establish stormwater facilities.



*Sustainable Drainage Systems (SuDS)*

Informing citizens about how they can contribute to mitigating the challenges of climate change is a major focus area in our climate adaptation strategy.

VCS has also implemented other solutions to reduce the risk of capacity overload in the wastewater systems. We have established several stormwater basins that serve as retention or detention facilities to control the flow of stormwater during heavy precipitation. Some of the basins are subterranean structures, others are established as surface structures. Some of the subterranean structures are constructed so that they also accommodate wastewater overflows during extreme precipitation. Surface structures are used to add recreational value to the local area, as they are constructed so that they appear as natural lakes, and they often become popular spots for family outings or institutional excursions.



*Glisholm Lake is a popular excursion spot, and functions at the same as a stormwater basin*

**PUB: What are some of the key water management challenges that you are tackling in your projects with VCS? What are some personal stories that you have garnered, based on your experience in these projects?**

**Claus:** In Denmark, the main challenge that we face in Denmark in our supply and distribution systems for drinking water is pesticides, or metabolites, that are currently being detected at an increasing rate in the groundwater wells. In 2017, two contaminated wells were detected. At that time, VCS ran a sampling programme that tested for more substances than what was required by Danish legislation. This prompted testing of most of our abstraction wells, and we found several wells with pesticide contents above the maximum permissible values. Two of our waterworks had pesticide concentrations above the maximum permissible values and they were shut down temporarily. As a consequence of findings of pesticides or metabolites that were not included in the national sampling programme, the Danish EPA, the Danish Regions and water utilities have initiated investigations and are currently expanding the list of substances included in the national sampling programme.

At VCS, we have also taken a number of initiatives related to the quality of supplied drinking water.

These initiatives include:

- An overview feature in the SCADA system that shows a calculated value for each substance. This ensures that our drinking water complies with the maximum permissible values for the substances that we currently know about
- Mapping of pesticides in the well fields

- Protection of groundwater aquifers (e.g. afforestation)
- Testing of methods for treatment of groundwater (selected wells)

**What are some personal stories that you have garnered, based on your experience in these projects?**

I have learned that close collaboration between authorities and utilities is essential, in order to ensure appropriate sampling programmes – so that we maintain consumer confidence in the drinking tap water supplied by their local waterworks. We must develop solutions to avoid pollutants in our well fields and aquifers. Agreements must be made between agriculture and local authorities to secure our future water supply from pesticides and metabolites.

**PUB: There is a need for global collaboration to co-create solutions that address the world’s water challenges. The Singapore Water Academy has a broad alumni network, comprising management executives and technical staff. What possible collaborations do you see between your organisation and other alumni?**

**Claus:** National and international collaboration and sharing of knowledge is key. At VCS, this is part of our corporate identity. We work closely with other Danish utilities, but we also – and increasingly – participate in international projects, in which we contribute with our know-how or provide counselling and training programmes. We benefit enormously from our active participation in international networks. For many years now, VCS has collaborated closely with international water and wastewater utilities. Among others, our collaboration and sharing of knowledge with PUB in Singapore has proven mutually valuable.

Water utilities are key focus points in relation to the global climate challenges. Societies need to engage in strengthening and boosting the global water sectors to secure our drinking water reservoirs and ensure safe and clean drinking water for all. Water utilities must support each other, wherever we can – so that the goals can be reached.

Everyone must have access to clean drinking water and sanitation. All wastewater must be treated to ensure a safe and healthy environment. In my opinion, it is essential that we – and all other water utilities, for that matter - make use of the professional water and wastewater contacts and networks that have been established all around the world.

**PUB: You attended the Singapore Water Management Series Water Quality Management course. What are some of the valuable takeaways from this programme for you?**

**Claus:** I found the programme extremely interesting. I got a lot of inspiring input and new knowledge from the highly competent and motivating speakers. The contributions from course participants were constructive and relevant.

I now have a better overview of

- All of the different pollutants that may affect our drinking water
- The methods that can be applied to detect the different substances
- How far research has come today

- The current status of the development of testing methods

It was extremely interesting to hear about the ways that water resources are handled in Singapore, and to learn about sustainable production of drinking water. It was inspiring to witness, first hand, the communication efforts applied by PUB at their visitors' centre through Marina Barrage. Our children need to learn about our world and its resources – and this requires great communication and qualified educators.