



8TH GLOBAL LEAKAGE SUMMIT 2016

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In advance of the Global Leakage Summit 2016, we spoke with Ole Skytte to get the Danish perspective on driving down water leakage.

1. Copenhagen has 'a unique story' to tell – it has just been named as one of the top three cities in Europe for sustainable water management. In what ways did HOFOR – as the water provider - contribute to this achievement?

There are three important factors concerning sustainable water management:

- The resilience of the water system
- The efficiency of the water use
- The quality of its water

All three factors have a high priority in Copenhagen and will be explained during my presentation at the Global Leakage Summit.

2. HOFOR has one of the lowest daily rates of customer water consumption in the world - 100 litres per person per day (UK is 140 l/p/d). What conservation measures and customer incentives did you put in place to achieve this?

Since 1987 HOFOR has been focusing on water consumptions with many different activities such as:

- Campaigns including: using less water, stories about installation of new toilets and business cases, campaigns concerning the use of rainwater in gardens
- Installation of meters for every house connection on the public system
- Information and campaigns for saving ground water resources by using other water resource
- Using toilets with low water volume and dual flush

So from 1988 to now, we have reduced the water consumption from 170 L per day to just about 100 L per day per person.

3. Do customers play a part in reducing non-revenue water (NRW), for example by identifying leaks and illegal connections? How significant are commercial losses (meter under-registration and theft) as a proportion of total volume water loss?

In general our customers do not play a role in reducing non-revenue water but on the other hand, we have wide use of the social media, where our customers are very good at sharing information on leaks etc.

All the employees in HOFOR play a part in reducing non-revenue water and will inform the right people, if they see an illegal connection or leak. This is one of the fantastic observations I have made in my time in HOFOR – all employees are very proud of our company and will therefore always participate actively in making HOFOR a better and more effective company.

I would say 1-2 % but we don't measure it.

4. HOFOR has reduced leakage to a world record level – stated as being between 6% and 8% of water supplied to the network. But we know that expressing leakage in this way can be misleading – does HOFOR use other performance indicators for making comparisons between Danish and international water utilities?

In general we measure all the water production and we can also measure the consumption at the customer based on the meters installed. Based on these numbers we are applying to calculate the water loss in the system.

5. What do you think makes HOFOR one of the world leaders in reducing leakage to such low level - is it by the use of innovative or smart technology, investing in a pipe replacement programme, staff skills and training, or a combination of all of these?

It's a combination of many things:

- You need to know your system
- Data from maintenance is a part of the renovation strategy
- Meters installed at every customer
- DMA (sectioning)
- Area sweep for leakage

- Innovation and technology ex. SMART Ball technology
- Staff skills, and education as a water specialist

6. We have heard about 'Danish Leakage Management Solutions' (LEAKman) - a collaborative programme between Danish water utilities, technology providers and contractors. Can you tell us what you hope to achieve from LEAKman - and do you see the outcome of the programme as another contributor to sustainable water management?

HOFOR and in general utility companies are system owners. Suppliers, consulting companies etc. have only one or two parts of a total system – ex. if you want an intelligent water pipe system, you need hardware and software technology, you need investment programs, you need operation experiences and all of these elements are part of a total system to run your utility in an intelligent way. The utility companies have this role and have an obligation to support the private companies, so that we can demonstrate in small scale, make full scale installations and at the end be able to give the customers the a better service etc.

HOFOR has one of the world's lowest level of water loss and one of the main reasons is that we have always participated in innovative projects with the role of making the connection between innovation and operation. So LEAKman is an opportunity for HOFOR to get even better and in the future build the best solution for leak management.

7. What other innovations has HOFOR introduced to improve network asset management and to move towards 'holistic' water network management?

Right now we are working on implementing Asset Management, so that we can improve our operation and investment plans. Our goal is to make sure that we can supply the same or even better service for our customers for the right price.

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