



**smart  
vatten**<sup>®</sup>  
UNDERSTANDING WATER

**ANNUAL WATER REPORT**

**2023**

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# Introduction

**FOR A LONG TIME**, water was no more than an afterthought when it came to ESG strategies in the real estate sector. In part, that was because water has been relatively inexpensive compared to electricity. But that is changing. Awareness of the importance and value of water is growing as we increasingly have to deal with droughts and prices are on the rise across the continent. At Smartvatten, we believe that water management will be one of the defining issues of our generation.

We are convinced that a true understanding of water enables the responsible use and management of water, making a world of difference on the road to a sustainable and water-efficient future. Accurate information and insight into our consumption is essential to achieving our goals. Through monitoring, measuring, and analyzing the water consumption of **7500 companies** in

more than **15.000 properties** and **200.000 apartments** in **36 countries**, Smartvatten now has the largest European collection of water data measured in real-time at professionally managed companies.

With this veritable treasure trove of information, we have put together our second annual water report. We take a closer look at increasing water prices across Europe, discuss the rising water scarcity and droughts across the continent, go into what average water consumption looks like, and what that means for your portfolio's CO<sub>2</sub> emissions. The overview of the average size and frequency of leaks also gives us useful information – as do the differences between property types.

We hope this document will provide you with valuable insights and inspiration, and look forward to working together on the road to a sustainable future.



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# Water prices are increasing

**WATER PRICES** around the world are increasing. The global population's continuous growth and the resulting increase in demand, combined with the effects of pollution and climate change, have made water a scarce and highly valuable resource.

Prices will go up when demand increases for a limited resource. But it's more than that. Increased demand means water companies all over the world are obliged to invest in production and infrastructure – leading to even more costs, reflected both directly in the price of water and indirectly through increasing taxes. For the real estate sector, the combined cost of the water supply, heating water, and the sanitation system is already one of the biggest costs of property management.

The 2023 Global Water Tariff Survey shows us that over the past 10 years, prices have surged across Western Europe. And with the effects of climate change only getting stronger, that trend is likely to continue.

**These prices per m<sup>3</sup> show the true costs of water. Including taxes, fixed costs, and variables.**

ESPOO		
2012	2022	Increase
€3,37	€4,19	24,33%

STOCKHOLM		
2012	2022	Increase
€1,66	€2,51	51,20%

GOTHENBURG		
2012	2022	Increase
€2,82	€4,35	54,26%

HELSINKI		
2012	2022	Increase
€3,24	€4,19	29,32%

OSLO		
2012	2022	Increase
€2,91	€5,31	82,47%

MALMÖ		
2012	2022	Increase
€1,98	€3,71	87,37%

AMSTERDAM		
2012	2022	Increase
€4,03	€4,40	9,18%

ANTWERP		
2012	2022	Increase
€3,19	€4,63	45,14%

BRUSSELS		
2012	2022	Increase
€3,70	€4,50	21,67%

ROTTERDAM		
2012	2022	Increase
€3,95	€4,68	18,48%

BERLIN		
2012	2022	Decrease
€6,99	€6,23	-10,87%

STUTT GART		
2012	2022	Increase
€5,10	€5,63	16,67%

MUNICH		
2012	2022	Increase
€5,04	€5,33	5,75%

# Drought in Europe: The rise in water scarcity

**DROUGHT IS BECOMING** an increasingly pressing issue in Europe, leading to severe water scarcity in various countries. The summer of 2022 was particularly challenging: it turned out to be the driest summer in 500 years. The accompanying drought conditions prompted several European nations to take action and implement strategies to mitigate the impact.

For example, in the Netherlands – known for its expertise in keeping water at bay for centuries – inhabitants must now rethink their approach to conserve freshwater supplies in the future, due to an increasing number of droughts. The neighboring Germany has experienced a significant depletion of its drinking water resources

**The summer of 2022 was particularly challenging: it turned out to be the driest summer in 500 years.**

over the past 20 years, equivalent to the size of Lake Constance. In the face of climate change and population growth, the country has adopted the National Water Strategy, which is intended to launch a transformation toward sustainable water management.

And these droughts are not incidental. They are expected to increase more and more in all of Europe. After the driest summer in 2022, scientists now have concluded that Europe has experienced one of its driest winters in a long time – paving the road for new droughts in the summer of 2023. The lack of rainfall and snow also means that depleted groundwater reserves have not been replenished, exacerbating the expected difficulties of the summer.

It is time to work actively on sustainable water management and to take care of this valuable resource. Without it, none of us can flourish.



# Average water consumption

**IN FINLAND**, the average water consumption per month is 3833 liters or 126 liters per day for a person living in an apartment building or terraced house when water is billed based on use. The average number of square meters per person is 40 in Finland. That means the typical consumption comes to 3,15 liters/m<sup>2</sup> per day.

In Sweden, the average consumption per month is 5353 liters per person or 176 liters per day, with an average number of 42 square meters per person. That means the typical consumption is 4,1 liters/m<sup>2</sup> per day.

In the Netherlands, the average consumption per day is 133 liters per person or 4045 liters per month, with an average number of 65 square meters per person. That means the typical consumption is 2,05 liters/m<sup>2</sup> per day.

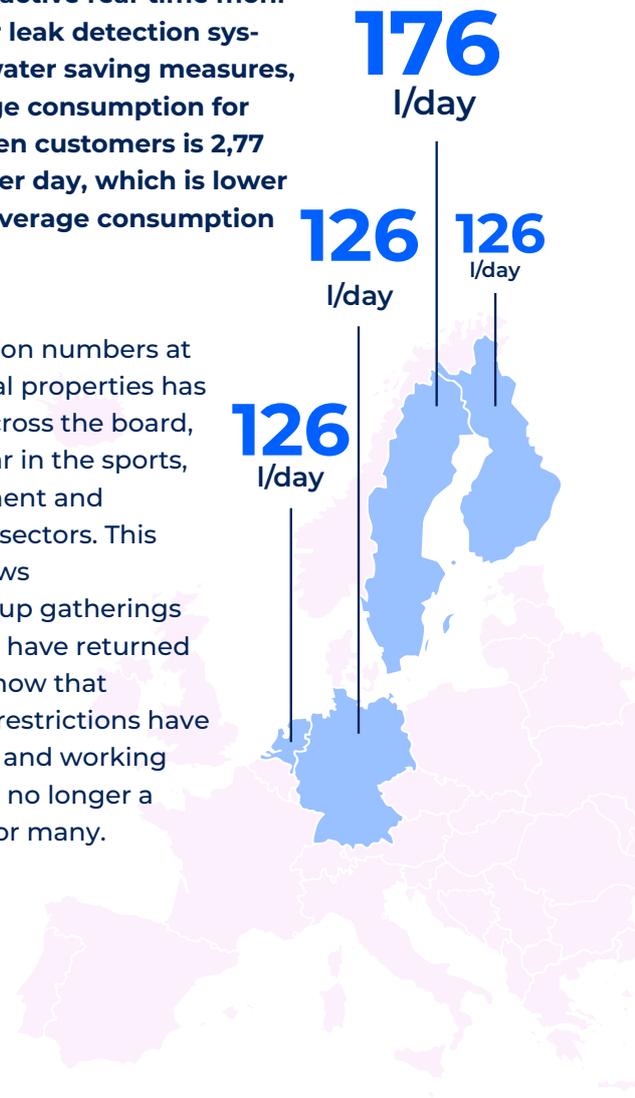
Germany has similar numbers with an average of 126 liters per day per person.

Across Europe, the average consumption is 3771 liters per person per month or 124 liters per day, with an average number of 43 square meters per person. That means the typical consumption is 2,88 liters/m<sup>2</sup> per day.

\*Data: EurEau 2021

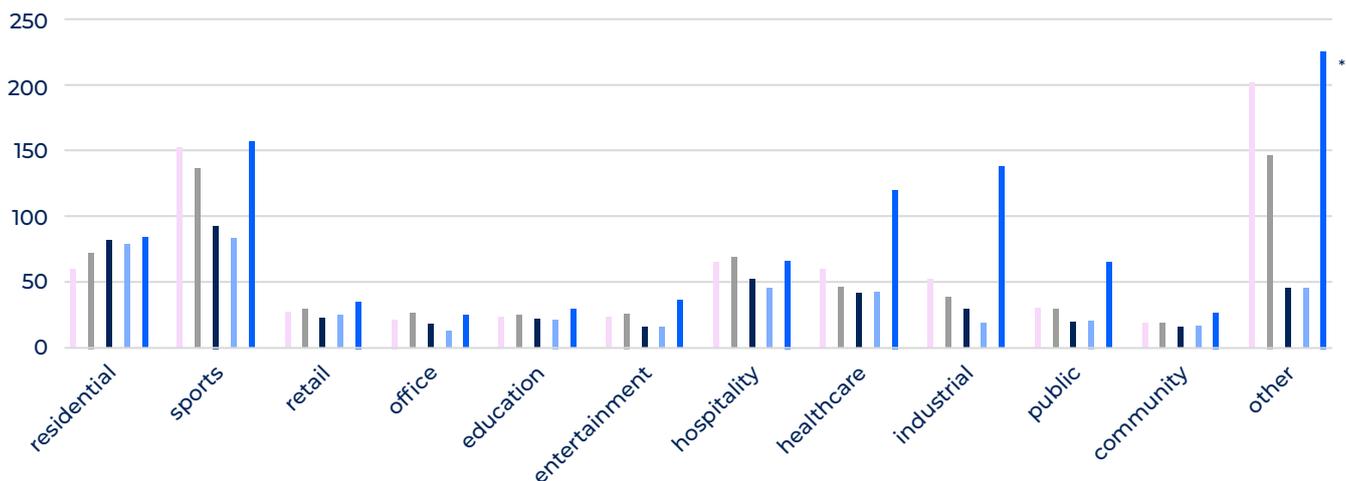
**Thanks to active real-time monitoring, our leak detection system and water saving measures, the average consumption for Smartvatten customers is 2,77 liters/m<sup>2</sup> per day, which is lower than the average consumption in Europe.**

Consumption numbers at professional properties has gone up across the board, in particular in the sports, entertainment and hospitality sectors. This clearly shows us that group gatherings and events have returned to normal now that pandemic restrictions have been lifted and working remotely is no longer a necessity for many.



## AVERAGE CONSUMPTION IN LITERS/M<sup>2</sup> PER MONTH 2018–2022

2018 2019 2020 2021 2022

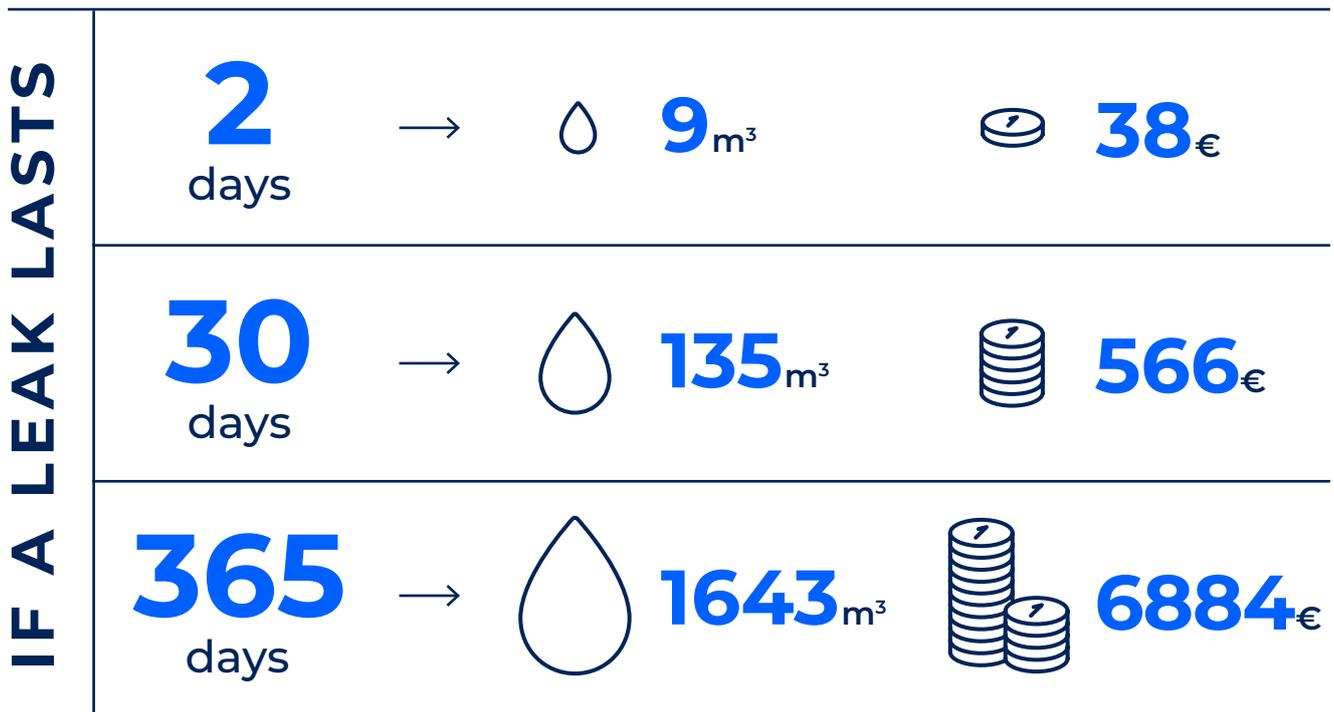


\* For greater clarity, the average consumption of the "Other 2022" sector was divided by a factor of 10.

# Average leaks

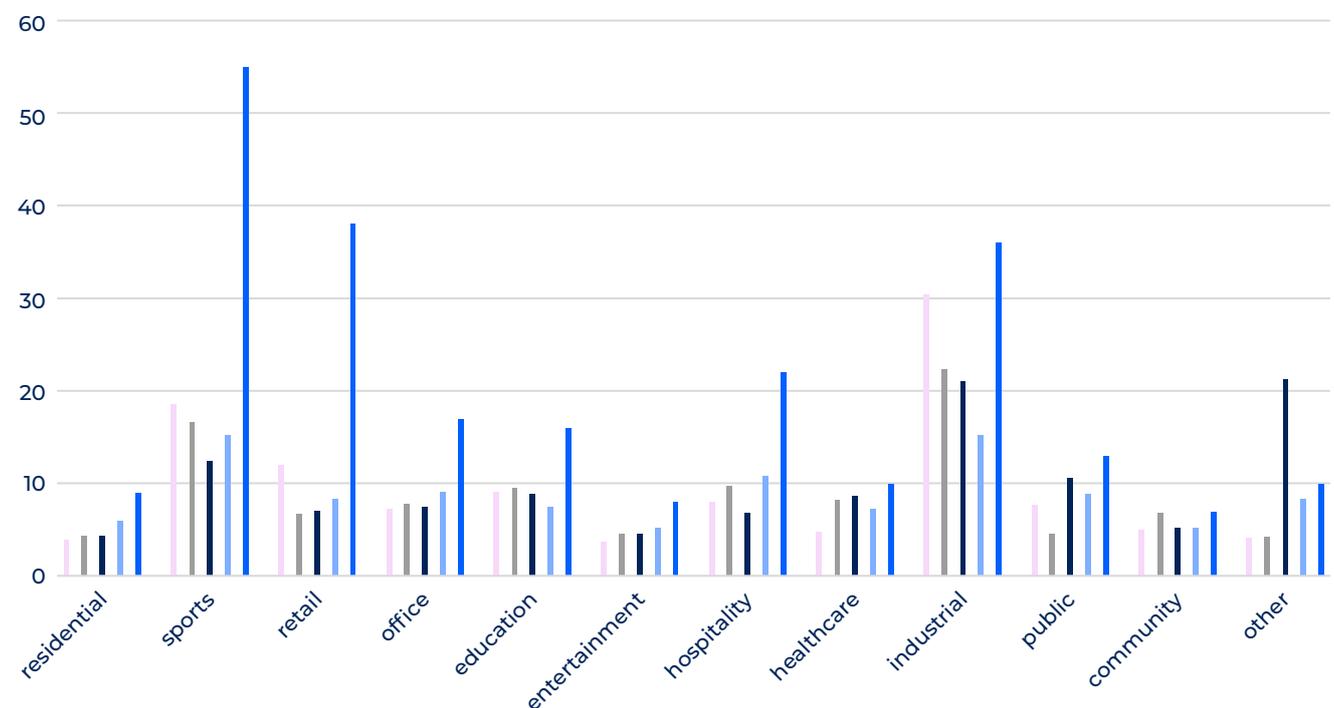
**WITH RESIDENTIAL LEAKS**, up to 1,7 liters of water are wasted per minute. That's only 28% of a nominal tap flow (6l/minute) but it can quickly add up in both liters and costs – and that's before taking into account the potential water damage.

Properties can experience leaks of over 15 cubic meters – which means more than 15.000 liters – and, if they continue for a month, could cost up to €1000 per month. Compared to our data from the previous year, the average leak size has gone up considerably, making leaks even more expensive and all the more important to prevent.



**AVERAGE LEAK SIZE IN M<sup>3</sup> PER LEAK ALERT 2018–2022**

2018 2019 2020 2021 2022



# Leak occurrence

**LEAKS OCCUR** in all shapes and sizes: from a flooded basement to a leaking tap or continuously flowing toilet. And whether it's due to an extreme weather event, a bursting or leaking pipe, a plumbing problem or a malfunctioning appliance, they all mean the same thing: water is being wasted and potential damage to your property.

Over 50% of our customers residential buildings have experienced a leak alert in each month of this year. This means that almost half of residential customers deal with one leak in every month. As property owners and managers, our customers are usually not the end users of their buildings.



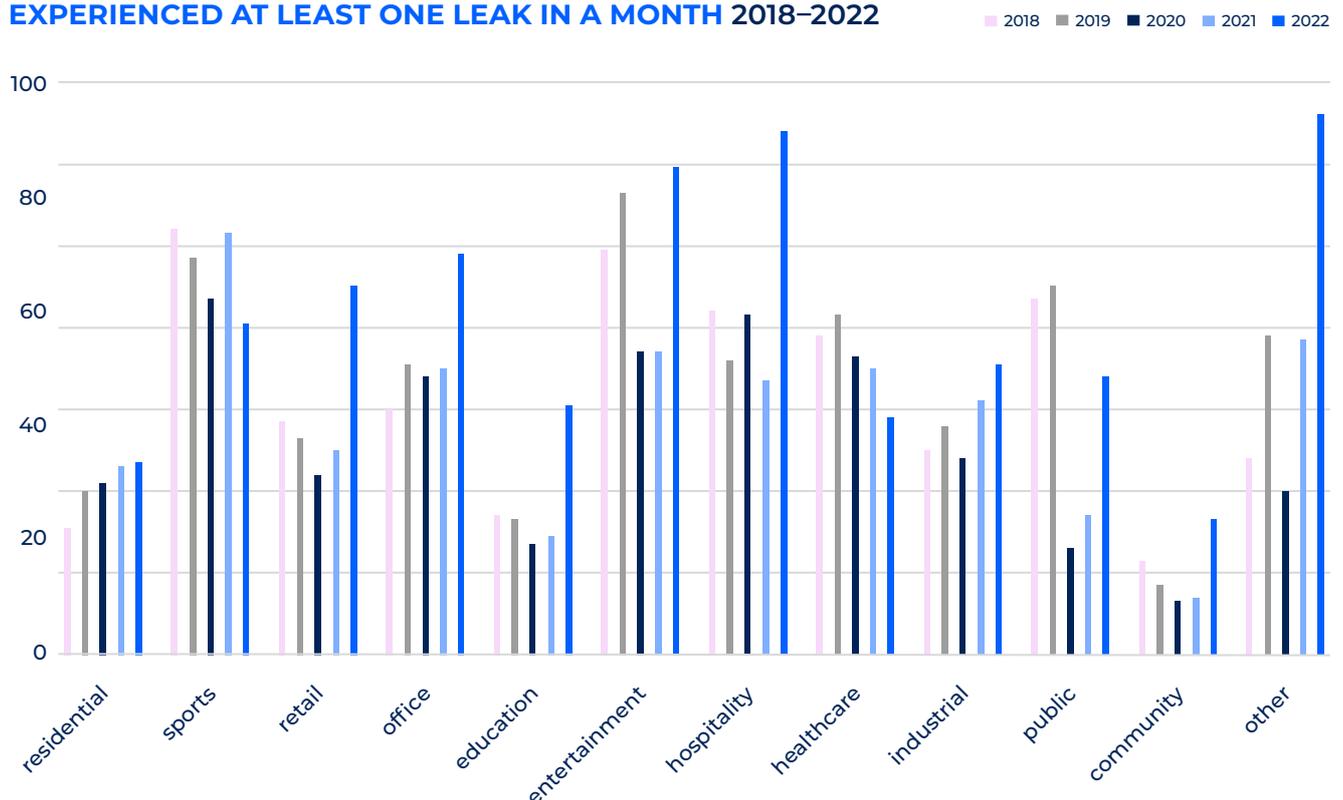
Over 50% of our customers residential buildings have experienced a leak alert in each month of this year.

Tenants are not responsible for maintenance, and often don't notice small leaks or fail to report them. For example, a continuously flowing toilet can go unnoticed for a long time in an office building, and while it might seem inconsequential, the amount of water wasted is significant.

In the entertainment and hospitality sectors, we see that the average percentage of customers who receive leak alerts every single month is above 100%. Whether they're small leaks like a continuously running toilet or big events like sprung pipes, it's clear that unnecessary waste is a constant concern and an important issue to tackle.

With automatic leak detection and instant alerts, there's tremendous potential to cut down the waste of water due to small leaks. And when it comes to bigger leaks, the Smartvatten service enables you to limit or prevent serious damage to your property.

**AVERAGE PERCENTAGE OF CUSTOMERS WHO HAVE EXPERIENCED AT LEAST ONE LEAK IN A MONTH 2018–2022**

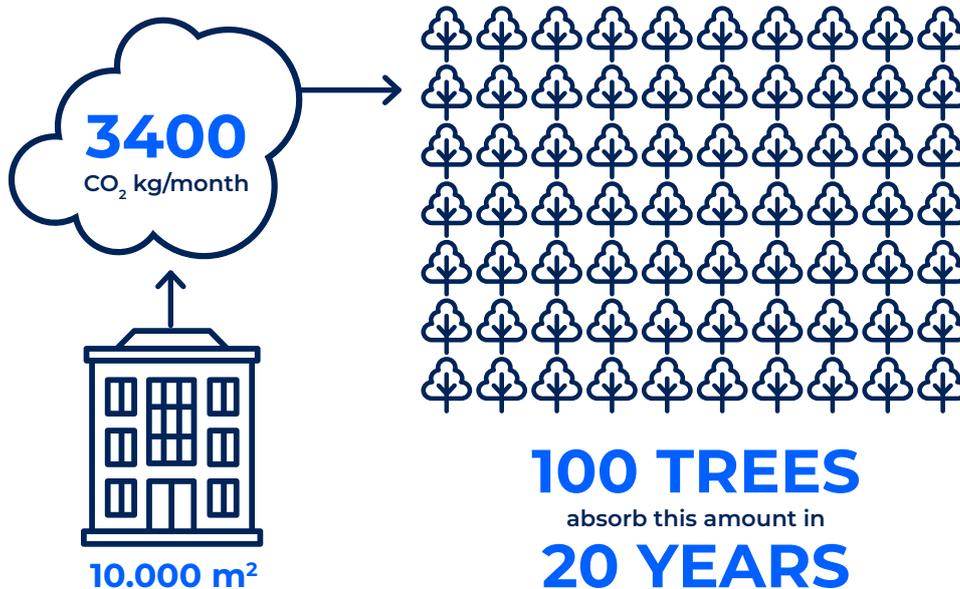


# CO<sub>2</sub> emissions

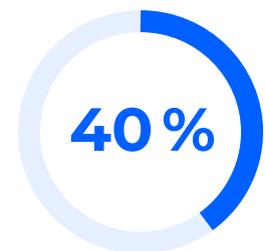
**MANAGING YOUR** water consumption is not just about water. It's also about energy and your CO<sub>2</sub> output. Of the total production of electricity, 12% is used for water production and the heating of tap water. Purifying (sea)water to get it ready for consumption, transportation to your property, heating water for a bath or shower, and collecting and treating wastewater after it goes down the drain all lead to CO<sub>2</sub> emissions.

And to generate electricity, we need water, too: 90% of global power generation is water-intensive. For almost every type of water production, significant amounts of water are required to either produce the equipment or in the generating process itself – that goes for nuclear, fossil, and even renewable energy sources. Water and energy are truly interdependent.

This all means that by improving your portfolio's water efficiency, you not only save water – you reduce your energy consumption and your carbon footprint, too.

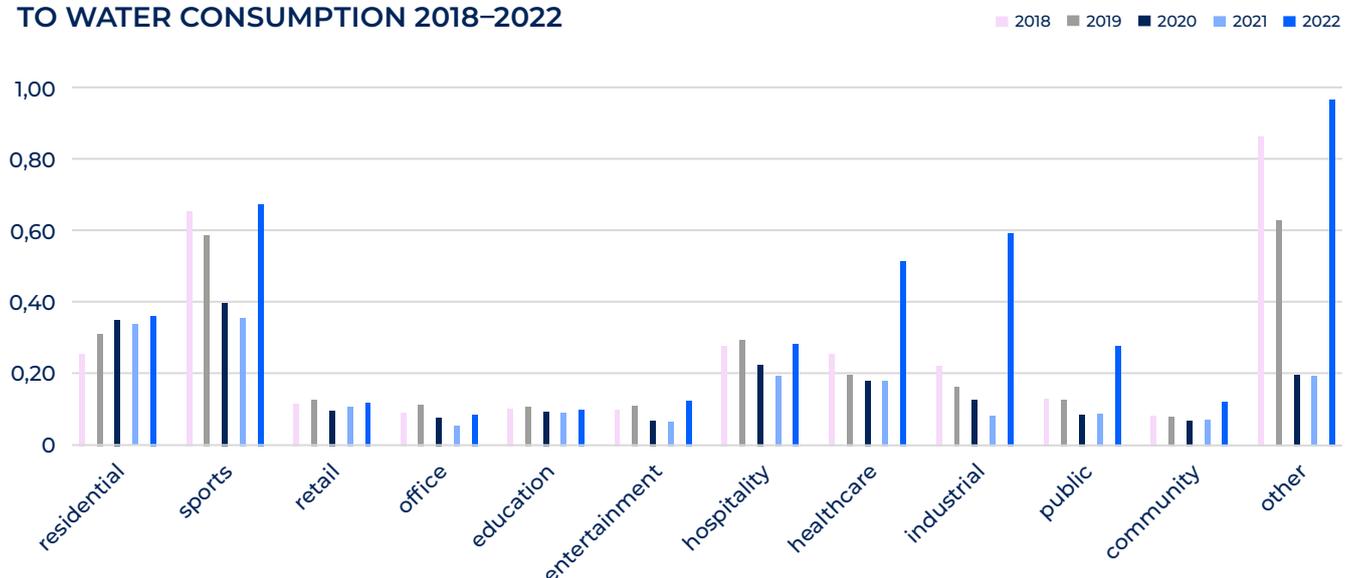


Water consumption related CO<sub>2</sub> emissions are the result of heating, wastewater handling and water transportation.



Approximately 40% of the water used by households is hot water.

**AVERAGE CO<sub>2</sub> EMISSIONS IN KG/M<sup>2</sup> PER MONTH DUE TO WATER CONSUMPTION 2018–2022**



# Property types

**THE WAY IN WHICH** water is consumed is very much dependent on the purpose of the building. That's why in order to share our collected data in a more useful way, we've chosen to categorize the properties by type. For example, in residential apartment buildings peak consumption might be in the mornings, evenings, and weekends, while offices see the most use during working hours. And when we're talking about businesses, there's a big difference in a building filled with cubicles or one that consists mainly of installations and machines.

We've highlighted a few categories below to provide insight into what causes the differences in consumption, leak size, and emissions.



## Sports

The water consumption in properties in the sports category is considerably higher than in many other categories. In these buildings – sports stadiums, for example – the large number of visitors at peak times and a high concentration of food and beverage services leads to much higher consumption rate. It also means there's a lot more hot water being used – and that means the CO2 emissions go up.

The leak occurrence is higher, too. Peaks in consumption during games alternating with periods of hardly any use at all put a strain on the water system. Combined with overdue maintenance, leaks are more likely to occur. And because the location closes down after the weekend game, leaking toilets might go unnoticed for a week if no one is actively looking for them.

Compared to previous years, both consumption and emissions have gone up now that group gatherings and events are no longer prohibited or restricted as they were during the pandemic.



## Community

In community spaces, it's often the opposite to athletic facilities. The number of visitors is much smaller, and the regular presence of facilities personnel or daily cleaning rosters means that leaks are quickly detected and solved.



## Industrial

Industrial properties experience much bigger leaks than other categories. And that's due to a combination of factors. These locations usually work with large-scale installations that use a lot of water which requires bigger pipes – and much bigger leaks if they are damaged. Combined with the daily practice of operating vehicles like forklifts and trucks in the vicinity of these installations and pipes, accidents are much more likely to happen. We can see a big increase in consumption in this sector this year, mainly due to an influx of new clients with large companies who are taking their first steps on the road to sustainable water management.

# Conclusion

**WITH WATER PRICES** on the rise around the world and an increase in droughts and floods, responsible water management is becoming more and more important for the real estate sector. Focusing on reducing waste and improving the complete water installation system will help you save money as well as valuable natural resources. And in order to start doing that, you need accurate information and a clear water strategy. That's where we come in.

## The Impact of Water Consumption

So, how exactly should we interpret the numbers we've shared in this report? They show us that water prices are rising significantly. They tell us that leaks are not rare – the opposite, in fact. The size of the leak may vary from a dripping tap in an apartment to a burst high-pressure pipe in a factory. But no matter what types of property your portfolio consists of, leaks are bound to happen. And compared to last year, the average size of leaks has increased – which means they cost more.

The numbers also show us that the impact of water consumption is much bigger than what it looks like at first glance. Consuming water re-

quires energy, and consuming energy requires water. The amount of energy that goes into the transportation, heating, and treatment of water should not be underestimated, and we should not forget the amount of water required in the production of energy, either. By saving water, you will also save energy and reduce your CO<sub>2</sub> emissions.

## Monitor, Measure & Manage

Monitoring your water consumption and implementing a leak detection system allows you to prevent serious damage and to avoid wasting significant amounts of water, energy, and money. And by tracking, measuring, and analyzing your consumption, you'll gain invaluable information about your properties – enabling you to implement water saving measures and responsible water management.

And that's exactly what we hope to help our customers with. Smartvatten provides high-quality data in real-time, sends instant leak alerts, and shares its expertise to help you create a clear water strategy. Join us and reduce water wastage, carbon emissions, and costs – and increase your asset value at the same time.



# How to create your water strategy

**WATER IS ONE** of the biggest expenses in property management. Every tap, shower, toilet, and heating facility adds up to millions of liters of water consumption. Add to that the costs of undetected leaks and excessive use, and there's tremendous potential to save both water and money. A clear water strategy helps you ensure your properties use water responsibly, all while saving money and limiting the strain on natural resources. With Smartvatten it only takes 5 simple steps:

**1 Measure** – Our smart main meter device is installed directly on your property's water meter and is then connected to our cloud-based software, just like our user-friendly submeters. Together, they track and record your consumption in real-time.

**2 Analyze** – This data allows our system to spot any deviation and sends out immediate leak alerts, enabling you to act quickly and prevent serious waste and damage. Regular reports and the online portal provide detailed insights into your consumption, and our home displays and mobile app for tenants informs and aids end-users.

**3 Evaluate** – For a complete picture, our experts examine the current state of your water supply, installations, and sanitation system. We'll figure out exactly where you can save and how to do it in the most efficient way possible.

**4 Strategize** – With all this information, we're ready to share our insights into the best options for improvement. Together, we'll map out a plan to upgrade your system and reduce both waste and costs.

**5 Save** – By installing water-saving devices and making sure the whole water system runs smoothly, you'll be all set with a user-friendly, sustainable, and future-proof water management system. Time to start saving water, time, and money!

Ready to take the first step toward water efficiency?

Contact us at

[info@smartvatten.com](mailto:info@smartvatten.com).

# Scoring points for GRESB and BREEAM

**SUSTAINABILITY CERTIFICATIONS** ensure that your efforts and progress are properly determined, valued, and ready for comparison. And as a Smartvatten customer, you'll hit the ground running.

In the annual GRESB Assessment, a Smartvatten subscription guarantees you at least 4.66 points out of 100 in the category Water Performance. With BREEAM, you'll automatically earn 10 points – and 25 when you actively work with our system.

## GRESB POINTS FOR WATER PERFORMANCE WHEN USING SMARTVATTEN

<b>WT1 – Water Usage</b>	Water Data Coverage – <b>4 points</b> . Applicable if 100% of the portfolio has 12 months of water consumption data for the full floor area. If its less than 100% of the floor area, the data coverage of the portfolio is benchmarked and scored dynamically (i.e., 70% data coverage for office assets in Europe will score differently than having 70% data coverage for industrial assets in Europe) with the scores ranging from <b>0–4 points</b> .
<b>MR3 – External Review of Water Data</b>	Smartvatten provides annual review statements to clients, confirming their annual water usage. This results in <b>0.416 points</b> .
<b>RA4 – Water Efficiency Measures</b>	It can be assumed that some assets in the portfolio have had automatic (smart) meters installed within the last 3 years. This is automatically <b>0.25 points</b> .

## BREEAM POINTS FOR WATER PERFORMANCE WHEN USING SMARTVATTEN

<b>ASSET</b>	<b>WAT01 – Measuring water use</b>	When our device is installed on the main meter of your property, you'll receive <b>4 points</b> . When every installation or floor that's responsible for more than 10% of the water use is equipped with a submeter and another device, another <b>2 points</b> are added.
	<b>WAT07 – Leak detection main water connection</b>	Because Smartvatten's leak detection system, you'll be awarded the full <b>4 points</b> , after a complete calendar year.
<b>MANAGEMENT</b>	<b>WAT 04 - Water-saving sanitary: Washbasin taps</b>	Earn up to 3 points, when at least 10% of the wash basins of the asset use water saving equipment.
	<b>WAT 05 - Water-saving sanitary ware: Showers</b>	Earn up to 4 points, when at least 10% of the showers of the asset use water saving equipment.
<b>USAGE</b>	<b>WAT 13– Water consumption reporting</b>	Actively working with our system awards you up to <b>4 points</b> for monitoring your water use and having a water management system.
	<b>WAT 14– Water strategy</b>	You'll earn up to <b>4 points</b> for implementing a water-saving strategy.

# Getting started with **Smartvatten**

## Who we are

Since its foundation in 2013, Smartvatten has been committed to making sustainability user-friendly. From producing energy certificates to providing simple water-saving installation services in Finland, to facilitating remote monitoring of water consumption in Europe, to offering full-service water efficiency strategies worldwide.

## What we do

**Our main meter device** comes equipped with a camera, is installed on your property's water meter, and then tracks and records your water consumption in real-time. Our submeters are ultrasonic flow meters that are installed in each of your property's apartments.

They come with a household display for tenants, and wirelessly connect to the property's collection unit.

**All our devices** are directly linked to our cloud-based software, where analyses and alerts are automatically set in motion.

**Any deviations in water consumption** trigger an alert – helping you to quickly respond to leaks, preventing serious damage and waste.

**Our reports** provide you with detailed insight into your water consumption, which we can use to help you create a clear water strategy to save water, time, and money.

**Need some advice or assistance**, or want us to take care of invoicing your tenants and fielding their water-related questions? Our Customer Success Team is happy to help.

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**1000+ SATISFIED CUSTOMERS HAVE ALREADY GONE BEFORE YOU.**  
READ ABOUT THEIR EXPERIENCES AT [SMARTVATTEN.COM/TESTIMONIALS](https://www.smartvatten.com/testimonials).

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# Want to find out more? **Get in touch!**

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