



# Water interests investors

TECHNOLOGY AND MANAGEMENT  
AS DEVELOPMENT AID

MANAGING PHARMACEUTICAL  
WASTEWATER



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## Responsible investment is worth it

**IN INVESTING**, the most common responsibility criteria are known as the ESG criteria (environment, social, governance). These criteria denote taking environmental and social responsibility and good governance into consideration when making investment decisions. Water treatment and sanitation fall under that E category.

**PREVENTING A WATER** crisis and improving sanitation can create new business opportunities in developing countries. When consumer habits and legislation in developing countries become more responsible, it creates an increasing amount of opportunities for profitable business and responsible investment.

**IN PARTICULAR**, fixing the wastewater treatment systems of large cities that grow at an accelerating pace in developing countries is a mega-project, which could have a major positive impact on our living environment on a global scale. For example, only about a third of the wastewater of the 15 million inhabitants of the Greater Manila Area is currently treated. Two thirds go straight into the Pacific Ocean as is... And Manila is not

the only place in Asia in this situation.

**THE SOLUTION** of global problems requires major solutions. Major solutions have a fast and significant positive impact on the condition of our planet. Extensive, international investments in water treatment and wastewater treatment development projects provide an opportunity to invest responsibly. The environment and the inhabitants of the target countries and - cities will be grateful.

**LARGE WATER** treatment projects carried out with international funding also open up opportunities for Finnish companies in the water sector. Planning, project management, equipment deliveries and specialist services constitute a massive international market, where the size of the business improves its success in the competition. There would also be enough room for a large Finnish water industry export company.



Lauri Leskinen  
Managing Director, Econet Group



**Preventing water crises and improving sanitation can create new business opportunities.**

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Econet Group Oy is a water and environmental engineering services management group. The Group includes the subsidiaries Econet Oy, Dewaco Oy and Oy Slamex Ab. Econet Oy's mission is to design and provide worldwide solutions for clean water and the environment. Located in Laitila, Dewaco Oy is specialised in sludge thickening, sludge dewatering and sludge removal systems. Oy Slamex Ab, located in Lahti, designs and manufactures equipment for water and wastewater treatment. The Group's turnover is about €12 million.



## The condition of the Baltic Sea is improving thanks to gypsum

Reducing the agricultural nutrient load in the coastal areas of the Baltic Sea is essential for the protection of the Baltic Sea. Gypsum treatment is a cost-efficient and quick-acting method that has been used for about ten years in Finland. The phosphorus load of the gypsum-treated fields in the catchment areas

of Savijoki and Vantaanjoki decreased by 50 percent with reasonable costs.

The objective of the Gypsum Initiative project is to spread information and specify the applicability of the gypsum treatment method in the countries of the Baltic Sea region. The use of gypsum as an agricultural water conservation

method is a great opportunity for the protection of the Baltic Sea. The project launched by the John Nurminen Foundation, the Finnish Environment Institute and the University of Helsinki is funded by the Finnish Ministry of the Environment.

[Johnnurmisenraatio.fi](http://Johnnurmisenraatio.fi)

## Water treatment methods for improving the condition of groundwater

In Finland, there are about 3,900 groundwater areas that are important to or involved with water supply, or that support an ecosystem dependent on groundwater. The majority of these areas are in good condition. According to the latest estimate, altogether 380 of all groundwater areas are risk areas, i.e. a concentration of harmful substances has been detected in the groundwater, and the condition of the water may worsen without protective measures. The number is higher by about 30 areas, compared to the previous estimate from 2013.

In most of the risk areas, the condition of the groundwater is good for now. Despite the risks, the groundwater is usable in almost all risk areas. Water quality is endangered particularly in the groundwater areas of urban settlements. 97 of the at-risk groundwater areas are in poor condition. The problems are mainly caused by the chemical condition of the groundwater (95 groundwater areas) and the volume (4 groundwater areas). There are also over 150 groundwater areas in Finland whose

quality or volume has not been studied enough for risk and situation assessment. The amount of such areas has remained the same since the last estimate.

Groundwater is spoiled by, for example, contaminated land, the winter maintenance of roads, industrial areas as well as agriculture and livestock farming. The key substances that worsen the condition of groundwater are chloride, old pesticides no longer in use, and ammonium. Improving the condition of

groundwater areas with multiple issues is slow and laborious. To improve the condition, efforts have been made to decontaminate polluted land areas and to prevent traffic-related risks by reducing the use of road salt.

Source: Finnish Water Utilities Association

[#watertreatmentmethods](#) [#groundwaterareas](#)

### DID YOU KNOW?

*Artificial groundwater is made by directing pre-cleaned water through gravel and sand into the groundwater zone.*



The latest references of the Econet Group can be found on Econet's website, under the section "References".

## DID YOU KNOW?

According to the IPCC, the entire world must be carbon neutral by 2050.

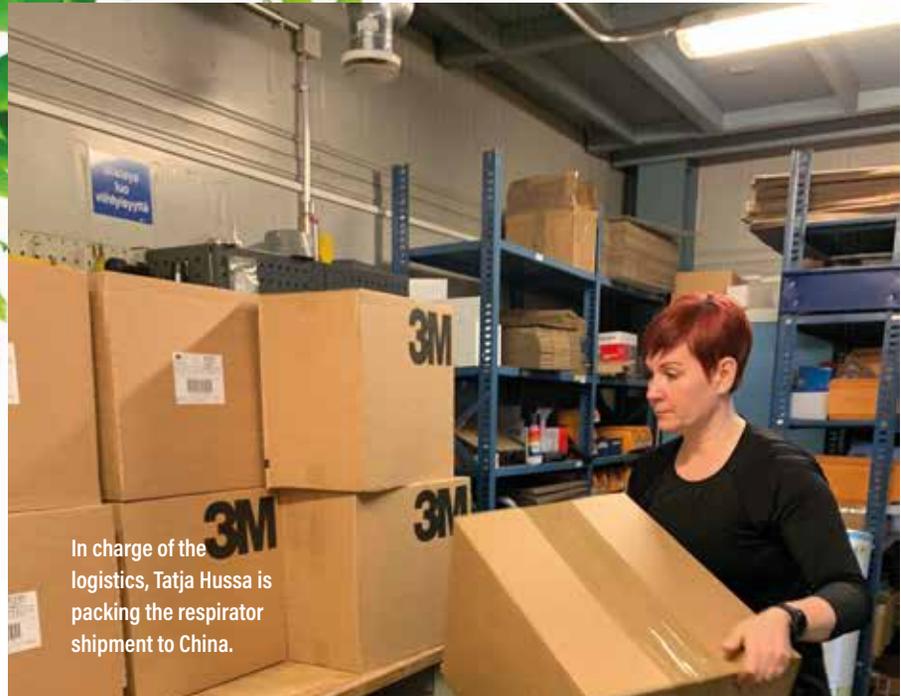


### Climate change affects water management

Extreme weather phenomena resulting from climate change are challenging for water management, but this has not been taken into consideration in all Finnish water utilities. For example, long periods of rain and heavy rainfall can affect water quality. According to a report by the Finnish Climate Change Panel, only some facilities have contingency plans, and every third facility has not considered weather and climate risks at all. Only every second facility has prepared for droughts or floods. According to the Panel, the Finnish water sector is nevertheless likely to adapt to climate change well.

The project investigated what problems climate change causes for water management, and how water utilities are prepared for the issues. The report can be found at: [https://www.ilmastopaneeli.fi/wp-content/uploads/2019/12/Ilmastomuutos-ja-vesihuolto\\_final.pdf](https://www.ilmastopaneeli.fi/wp-content/uploads/2019/12/Ilmastomuutos-ja-vesihuolto_final.pdf)

Source: Finnish Water Utilities Association



In charge of the logistics, Tatja Hussa is packing the respirator shipment to China.

### Econet helping in China: 1,200 respirators sent to Beijing

The novel coronavirus epidemic that spread in China and later in the whole world is a cause for concern also for the people at Econet. Beijing Believe, a stockist of DEWA products in China, approached Jari Virtanen, the Plant Manager of Dewaco Oy, a part of the Econet Group at Laitila, asking for help. In the entire country of China, there was a severe shortage of respiratory masks which stop the virus spreading from one person to another. Virtanen organised a mask shipment of 1,200

units to be dispatched on 6 February via UPS to a hospital chosen by the company's business partner, Leon Shi.

- After contacting him, Jari Virtanen assured us he would help us immediately.
- Within three days, he was able to source 1,200 masks, which are already in China. We are very grateful for our partnership, Leon Shi says with praise.

#coronapandemic

### Hashtags in the AQ

Topic keywords or hashtags (#) are words or a string of symbols that follow the hashtag sign, which help people search for particular topics and messages online. In social media applications, users can make up hashtags by tagging the content of the message, for example #beltfilterpress, and by clicking on this keyword, others can see the conversation about this topic held in LinkedIn, for example.





## DID YOU KNOW?

*Half of the world's nitrate fertilizers drain into waterways, turn into nitrates and cause oxygen depletion.*

# A quality assurance system for fertilizer manufacturers

A **quality assurance** system has been created for fertilizers made in Finland from biogasification or composting. This system makes nutrient recycling more efficient by improving the brand awareness, market volume and safety of use of fertilizer products made from recycled materials. The voluntary quality assurance system is a tool and a service for the authorities, and the users and manufacturers of fertilizer products.

Recycled fertilizers are made from separately collected biowaste, biowaste from the food industry, different biomasses, manure, ashes, forestry residue and sewage sludge. There are more than 60 different biogas facilities and a few hundred composting facilities operating in Finland.

The quality assurance system increases the use of recycled fertilizers. The use of fertilizer products improves the biological activity of the soil and the

carbon sequestration of the soil, as well as increasing the amount of humus and reducing soil erosion sensitivity.

The project was led by the Finnish Biocycle and Biogas Association in collaboration with the Finnish Water Utilities Association.

**Source:** [laatulannoite.fi](http://laatulannoite.fi)

#biofertilizer #composting #recycledfertilizer

## The smelt

OSMERUS EPERLANUS



The **smelt** is a silvery, translucent fish who lives in shoals in the inland and coastal waters of Finland. Freshwater smelt can grow to about 10 cm, while saltwater smelt can grow to about 30 cm. The smelt feeds on small plankton crabs and shellfish. This fish species is the most important by-catch for seine and trawl fishing.

Smelt tastes like pike perch, and it smells like fresh cucumber. The white flesh of the fish is firm and tasty.



## DID YOU KNOW?

*According to the IPCC, Europe must be carbon neutral by 2030.*



## EU Urban Waste Water Treatment Directive reviewed

The European Commission conducted a review of the Urban Waste Water Treatment Directive to see whether the provisions have reached the set goals and whether the regulations still serve their purpose. When it was fully implemented, the directive was deemed to be efficient, as the load from water treatment facilities has reduced all over Europe. However, some problems were identified during the review of the directive, and the reporting and communication requirements outlined in the directive were deemed to be outdated. As it is, the directive does not address pharmaceutical residue or microplastics, and the waste water sector could be doing more to reach the EU climate and energy goals.

In some EU countries, the implementation of the directive has been delayed. Overflow was identified as an issue for waterways. Currently, overflow regulations can only be found in a footnote of the directive. The directive also allows waste water treatment to occur within residential systems, but the systems may be poorly maintained and not monitored. The directive does not apply to small agglomerations and non-connected dwellings which cause pressures on the waterways.

The assessment criteria were effectiveness, efficiency, consistency, relevance and EU added value. The evaluation generated background material which the Commission will review regarding the need for further measures.

**More information:** [https://ec.europa.eu/environment/water/water-urban-waste/evaluation/index\\_en.htm](https://ec.europa.eu/environment/water/water-urban-waste/evaluation/index_en.htm)

**Source:** Finnish Water Utilities Association

#urbanwastewatertreatmentdirective, #pharmaceuticalresidue, #microplastics

## Happening in Ust-Ilimsk...



Winter is finally turning into spring also here in Siberia. In Ust-Ilimsk, a massive construction project was launched by Ilim Group, Russia's largest wood processing company; Econet is involved in building a pulp mill on an adjacent field.

We've been looking forward to having a new neighbour!

## DID YOU KNOW?

*The financial sector plays an important role in combating climate change; green investments can help save the world.*

## A new Drinking Water Directive

EU's new Drinking Water Directive aims to ensure that the quality of domestic water is of even higher quality throughout the entire EU. In the future, member states must ensure that they have sufficient water management measures. The directive aims to improve the transparency and communication practices of water management, as well as improving the energy efficiency of water utilities.

The monitoring of the quality of domestic water is based on the risk assessment and risk

management of all parts of the water supply chains. In addition to the risks related to domestic water, the directive also requires co-operation for the protection of surface water and groundwater. The new directive will enter into force in summer 2020, and the member states have two years to incorporate the provisions of the directive into the national legislation.

**Source:** vvyfi



# Responsible investment is becoming mainstream

Larry Fink, the CEO of BlackRock, the largest money-management firm in the world, published his annual open letter last January, declaring that responsibility will become the key criterion for the company's future investment decisions.

Paul Öhrnberg PHOTOS Taaleri, Paul Öhrnberg

In total, BlackRock manages investment assets in the astronomical sum of over € 6.600 billion, so after that letter, it was clear that responsible investment was no longer some little niche, but a mainstream market preference. The assets controlled by BlackRock are about 114 times larger than the state budget of Finland (€ 58 billion).

The company started to implement its new strategy immediately by announcing that it would sell its coal-related investments.

BlackRock is not the only one. Responsibility and effectiveness have become the guiding principles of an increasing amount of financial institutions, and an increasing amount of investors want their money to be invested in environmentally friendly objects.

According to the investment research company Morningstar, a record-breaking € 120 billion worth of new capital flowed into European sustainable development investment funds, and the pace is only expected to accelerate.

## Options for investors

There are already many options for responsible investors. There are plenty of objects related to the mitigation of climate change, and also in the water industry. For example, the British company Impax Asset Management has several funds focusing on companies in the water industry.

The US financial giant Fidelity, in turn, launched the Water & Waste Fund in autumn 2018, and at around the same time, the International Bank for

## Water is an opportunity and as well as a risk for an investor.



**Pekka Samuelsson, Investment Manager at the financial services company Taaleri.**

Reconstruction and Development (IBRD, a part of the World Bank) launched its first sustainable development bond with a water sector component.

In Finland, OP offers its Puhdas Vesi (Clean Water) fund. This fund concentrates on companies around the world whose business operations significantly contribute to securing the availability of clean water.

### Two perspectives

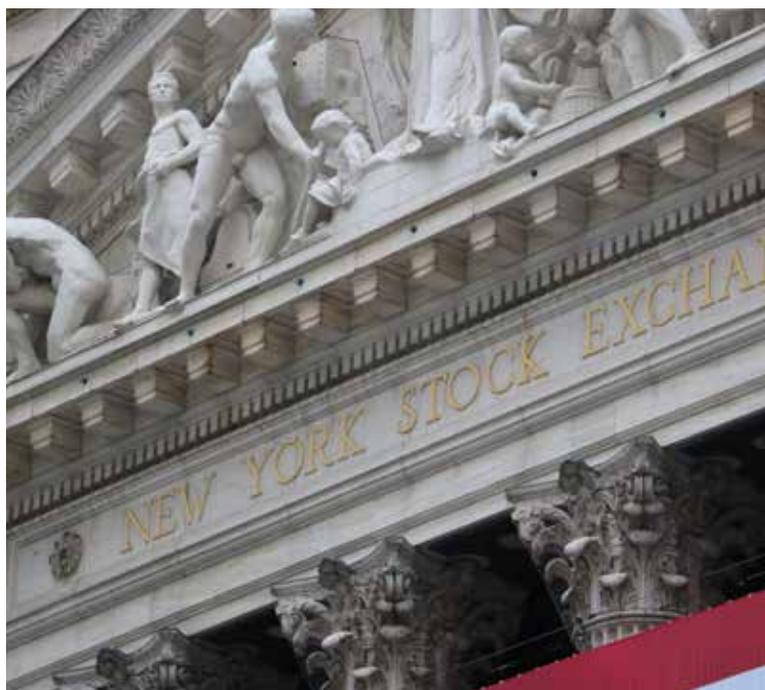
The scarcity of clean water and the growing demand for it are an opportunity for an investor, while also being a risk. This trend supports the business opportunities and growth of companies in the water industry,

but correspondingly, it can denote growing expenses and production problems for companies that use a lot of water.

In Finland, the availability of clean water is something people almost take for granted, and investors might not even think about it. However, the global situation is different, which is why the so-called water risk should be taken into consideration when dealing with investment decisions.

One of the Finnish pioneers in responsible investment is the financial services company Taaleri Oyj, who has been involved with impact investments already for about ten years.

Impact investing refers to investments



## Responsible investment: Key terms

**Active ownership:** Using the power of ownership actively, for example through corporate discussions and business meetings.

**Ethical investing:** The investor's own values rather than the expected financial returns determine the selection of investment objects.

**ESG issues:** Environmental, Social and Governance issues.

**Negative screening:** Excluding certain businesses or industries from the investment portfolio based on certain criteria.

**PRI:** The UN's Principles for Responsible Investment

**Positive screening:** Seeking out companies who are committed to responsible business practices and/or provide responsible products or services.

**Themed investing:** The preferred investment objects are companies that operate in certain fields or provide certain products or services.

**Impact investment:** Investments made in companies, organisations or funds, with the intention to generate measurable social and environmental change alongside investment returns; impact investment includes microfinance, community investing and social entrepreneurship funds.

**Responsible investing:** Investments that consider ESG issues in the investment process and the owner practices with the view that it promotes the return and risk profile of the investment portfolio.

Source: Finsif

#responsibleinvestment

made with the intention to generate a beneficial social or environmental impact alongside a financial return, while many other forms of responsible investment aim to avoid doing harm with the business operations.

– Companies can roughly be divided into those who are a part of the problem and those who are a part of the solution. An impact investor invests in those who are a part of the solution, Investment Manager **Pekka Samuelsson** summarises.

According to him, Taaleri's task is to offer options to clients, helping them to have a positive impact on climate change, for example, or on the solution of some other significant problem with the help of their investments.

### Investing is interesting

The field has grown rapidly. On a global scale, impact investing has grown by about 30 percent every year, and last year, impact investment assets were estimated to exceed 500 billion dollars.

The growth has been quick in Finland, too. According to an economic study conducted by Taaleri last autumn, about 40 percent of the more than one thousand investors who participated in

## Impact and good returns go hand in hand.

the study said that the impact of their investment determines their future investment decisions. The change is big, as impact has been a notable criterion only in 17% of investment decisions previously.

The study also reveals that 41 per cent of the respondents estimate that impact improves returns.

– A general misconception is that achieving impact means reducing returns. Actually, impact and good returns go hand in hand. All of our impact investments have certain expected return/risk ratios, Samuelsson says.

Taaleri is already managing more than a billion euros' worth of impact investment projects. The majority of assets have been invested in projects related to wind and solar power, but investments have also been made in water-saving technologies, for example.

– On a global level, clean water is one of the key topics for impact investing, and we are monitoring it closely. At the moment, there are not as many investment objects in the water industry as there are in the solar or wind power sectors, but that will change in the near future.

According to Samuelsson, the water industry provides a wide range of opportunities for impact investing, from water treatment solutions for individual households to large infrastructure projects.

– For example, the Baltic Sea, water management in developing countries and making water availability more efficient for the agriculture of dry regions could contain good objects for impact investing.

Responsible investment is also on the rise in Sweden. **Håkan Persson**, the CEO of Econet Vatten & Miljöteknik AB, a Swedish subsidiary of Econet Group, believes that in the coming years, environmental issues will also rise to the forefront of Swedish investor activity.

– We already have sustainable development funds in Sweden, but so far, I haven't noticed any of them being specialised in clean water. There are such funds on international markets, Persson says. *aq*



Water management in developing countries and improving the availability of water can offer good impact investment objects.



Responsible investment  
is a win-win situation.

Anna Hyske, Head of Responsible  
Investment at the employment  
pension company Ilmarinen.

## Saving the world is good for business

**Responsible investments are increasing rapidly in Finland. It is evident, for example, by the fact that already 45 companies in the financial sector have signed the UN Principles for Responsible Investment (PRI) and have committed to take these into consideration.**

Paul Öhrnberg PHOTO Ilmarinen

THE AMOUNT OF PRI companies is clearly higher than in Norway or Denmark, so in this respect, Finnish people are in the forefront of responsibility. The trend is also visible in the member count of Finsif, Finland's Sustainable Investment Forum.

– It had 14 member companies when it was established 10 years ago. Now, there are already over 70 member companies. Finsif's members include the key players of the Finnish investment sector, with total investment assets exceeding 530 billion EUR, says **Anna Hyske**, Finsif's Member of the Board and Head of Responsible Investment at the employment pension company Ilmarinen.

She has been involved with the development of responsible investment in Finland from the start, as Ilmarinen was the first Finnish company who signed the PRI principles in 2006. Hyske was also involved with the founding of Finsif and she was the organisation's first chairman.

The newest report from Finsif highlights the importance of responsibility in promoting business. 87 per cent of the organisation's member companies estimated that responsible investment benefits the company. Some of the most

notable benefits mentioned were a better return/risk ratio, the development of investment processes, reputation management and customer satisfaction.

Corporate values, reputation and saving the world are important motives for responsible operations, but are they sought after at the expense of investment returns?

Hyske says that at Ilmarinen, it is clear that people expect returns and security from investments, and in her opinion, responsibility does not contradict these objectives.

– The pursuit of profits and productivity has not disappeared at all. In our experience, responsible investment is productive. It is a kind of a win-win situation, where returns make it possible to do good.

– Our basic premise is that in our investments, the returns, the security and the responsibility have to be balanced. We would not add stocks of an eco-friendly company to our portfolio if its finances are not in order. Respectively, we would not invest in a company whose finances are good but whose responsibility is lacking, Hyske explains. *aq*

# Moving forward with know-how and collaboration

**Finnish companies are preferred partners in development aid projects, as they offer good management in addition to know-how and technology.**

Eija Öhrnberg PHOTO Vilja Harala

**A**ccording to **Siv Ahlberg**, an experienced specialist in the field of development co-operation, this is a considerable competitive advantage, as good management in particular plays a key role when talking about the privatisation and cost-efficiency of development aid projects, for example, or about responsible investment.

Siv Ahlberg has extensive experience in exporting Finnish technology and know-how. For example, she has worked for the Nordic Development Fund, Finnfund as well as Finnpartnership (governed by Finnfund). She has become familiar with the public and the private sector alike. She is also well-acquainted with Econet through several water industry projects.

– Water, the environment and energy have been the focus of development co-operation for a long time. In addition to know-how and technology, Finnish companies offer good management, which is why we are preferred partners in international projects.

According to Ahlberg, management plays a key role in development aid projects. It is tied to the discussion about the privatisation of development aid projects, which is a mixed blessing, in Ahlberg's view.

– The private operation of projects works in principle, and it is great regarding the overall functional entity. However, the price of water or other basic commodities should not be determined freely. The privatisation of all operations requires good management; it is irresponsible to hand over some operations without any guidance.

Ahlberg is also worried about aid investments in developing countries, where things have gotten somewhat out of control. She advocates for improved cost-efficiency, which can likewise be achieved by good management.

– Paradoxically, project success is often measured

by the amount of money spent. It would be much better if people could instead measure what has been achieved with that money. If projects were run like private companies, the result would be measured according to the achievements, not based on the money spent.

## **Away with useless modesty**

Although the companies in the Finnish water industry have plenty of know-how, technology and good management, success on an international scale is nevertheless not easy. According to Siv Ahlberg, the small size of the companies is a problem. In international tenders, small companies are often overlooked.

## **Management plays a key role in development aid projects.**

– I believe that much more could be achieved by collaboration, and here, the sector's co-operation platform, Finnish Water Forum (FWF), plays a key role.

– However, it would be even more important for large Finnish companies to use domestic water know-how for their own needs. I think this should be obligatory. When making decisions about water sector investments, people should look further into the future. The cheapest project may not be the most affordable solution in the long run. The strengths of domestic suppliers include reliable quality and maintenance, which translates to savings in the lifecycle costs. This is yet another thing that the Water Forum has to lobby for, Ahlberg thinks.

She also urges companies to be more vocal about themselves, because there is unfortunately not much

awareness in the world about Finnish know-how and companies.

– We should always be one step ahead of our competitors, Ahlberg says. We must be better, smarter and faster. The people in Finland are unnecessarily modest. A shortage of clean water and pollution are big challenges for humankind, but we have the know-how to help solve these challenges. We have to take this message to the world.

## **Responsible investment in water**

Responsible investment is increasing strongly on a global level. Siv Ahlberg sees many opportunities in the water sector for developing businesses and products aiming for responsible investment.

– Responsibly managed water utilities would be safe and reliable investment objects for basic investors. People want to invest more, and increasingly more responsibly, and they want their investments to make them feel good both psychologically and financially.

Ahlberg believes that responsible investment is significant in the overall picture of saving the world. With the right investment choices, you can affect climate change. Information and communication are key issues, and education achieves a lot of good.

– Unfortunately, the mechanisms that measure responsibility are largely still being developed, so making the right investment choices requires much research. Standards and certifications are already mainstream, but I think people have to look deeper.

– For example, with regard to water and energy, efficiency is an important factor. If it's possible to be more efficient about something, that in itself creates responsibility. Recycling should be highlighted much more, considering that we don't have enough resources to distribute among everyone.

Some of the forerunners of this field are the



Siv Ahlberg

**There are many opportunities in the water sector for developing businesses and products aiming for responsible investment.**

so-called ESG-responsible companies. These companies openly measure their environmental and social responsibility and their governance methods. The abbreviation ESG is short for Environmental, Social and Governance.

- If an investor truly wishes to know where they're investing their money, they have to investigate the company's operations more thoroughly and monitor how things are done. Only then, they make the investment decision.

- People have started voting with their feet, which is great. The earnings of responsible companies have been proven to be higher. If you do things well and properly, there are fewer accidents, fewer mistakes to fix, which all saves money, Ahlberg says.

According to her, it's gratifying that Finnish people are also increasingly more interested in investing and responsibility.

- Risk anticipation and expected returns determine where people want to invest. Responsible investments have good returns already today, and they also make people feel good. It's a circle of goodness, Ahlberg concludes. *aq*

## Fatti Furbo

**AS I'M WRITING** this, I've been retired since the beginning of 2019. This has been a time of drastic changes, very demanding for myself but also for the people close to me. Whenever I've caught up with my relatives, acquaintances, friends and old colleagues, the conversation has almost invariably gone as follows:

- Hi, nice to see you, how's it going? they ask.

- Good, thanks. I retired at the start of the year. How are you going? I reply.

- You? Retired? Can't be. Such a young, virile man? the other person would continue, smiling broadly.

And that's usually the end of that line of questioning. Depending on the person, the time and the place, the conversation might continue.

- What do you do every day, do you have any hobbies, like exercise? the other person would enquire with a slight frown but still smirking.

- Yep, I go fishing, I do volunteer work and I've always liked reading. I can sense what's coming and I'm already a bit on guard.

- Yeah-yeah, but do you have any proper hobbies? Do you work out at the gym, go jogging in the summer, swimming in winter and skiing, of course, cross-country? You might be a bit too old for downhill skiing, the questioner would lecture, frowning slightly.

**AT THIS STAGE**, it is wise to end the conversation, because otherwise I end up explaining what I really feel like.

**REALLY, TRULY**, this retirement business needs some getting used to; I'm still practicing, it's not that easy. Although I have it down to pat, the people around me are still contacting me about stuff that concerns those who go to work. It requires quite a lot of self-discipline to keep from interfering with things, and on the other hand, I'd rather not give out advice.

- It's better to have a clean break and finish all work immediately at the start of retirement, it's not worth hanging around at work after that deadline, bothering others,

the self-taught lecturer responds with grim self-determination.

Here, finally, the conversation ends: I've either walked along on my way, or I've been left behind, either forgotten or branded an idiot.

**“The only thing worse than awkward silence: small talk.”**

- Harry Dean Stanton -

**JUST FOR** my own sake, I thought I'd tell you the following story about the volunteer work I've done, using my hobbies, i.e. fishing and reading.

I really like fishing. At my cottage, I mainly use fishing nets to catch something on weekends, but a few times a year, I go fishing in different places around the world. Last February, I was on Siargao island in the Philippines, catching sailfish; and in September, I was at Kitkajärvi in Kuusamo, trawling for trout. Soon, I'll be trying to catch a giant pike at Tammisaari.

Promoting the export of the Finnish water industry has been a matter of some importance to me, taking up a great deal of my thought and some of my money. I've participated in Team Finland's export promotion trips in the delegations of the President and the Prime Minister of the Republic of Finland, I've been the Chairman of Business Finland Emerging Market Advisory Board, Member of the Board of the Finnish Water Forum for three terms, and involved with a project run by the Finnish Water Utilities Association which worked on operating models for the internationalization of water utilities.

I spent my own money travelling to Brussels for half a dozen times over the course of two years, as I was a SME member of the EU's European Innovation Partnership for Water's High Steering Committee. I was the only member among 25 representing companies. I know I've done my share for promoting Finnish water industry export.

Mats Ahlnäs

# Economics from young people to young people

High school stockbroking ambassadors introduce the secrets of investing to Year 9 students with the help of real-life examples.

Riikka Mäkinen PHOTOS Riikka Mäkinen, The Finnish Foundation for Share Promotion

**T**he stockbroking ambassadors trained by the Finnish Foundation for Share Promotion tour upper secondary schools, telling students about the economy and money in simple terms, in their own language. The presentation material is supplied by the Finnish Foundation for Share Promotion, but the examples are provided by the young people themselves. The CEO of the Finnish Foundation for Share Promotion, **Sari Lounasmeri**, is particularly proud about the story-like aspects and cleverness of the lessons.

– The ambassadors link the topics to the everyday life of every young person. They have come up with amazing practical examples, like describing a fund as a bag of lollies, where you can see what lollies there are but you can't choose any particular ones. With unpackaged lollies, on the other hand, you can grab whichever ones you want, which is similar to investing in shares, where every investor chooses every company to invest in, Lounasmeri says proudly.

The voluntary training programme coaches 15-19-year-olds about managing their finances, investing and how the stock exchange works, after which the ambassadors will tour schools, sharing their knowledge with other young people. These free visits are intended for Yr 9 students' social studies classes, in particular.

According to Lounasmeri, the idea behind all this is to make young people think about how they use their money, and how they can manage it in small steps. Where does money come from and where does it go? How much can a young person save every year by not

buying any more energy drinks, for example, and what else could they do with the money they have saved?

– We don't want to caution them, just to guide them to think about money management in a clever way. We don't expect Yr 9 students to start investing immediately, we'd just like them to be informed about the different opportunities well in advance. Dreams can come true by planning and saving, and later by investing, for example. Our goal is to shape the mindset, Lounasmeri emphasises.

## Young people focus on responsibility

Young people know how to ask and question things, which is also evident in the investment practices of young people and young adults. According to Lounasmeri, investment decisions often have a value-based approach.

– For adults, the first scanning criterion for an investment decision is usually a numerical measure, but for younger investors, it is more often related to responsibility. Young people make their choices from an ethical perspective: what issues they want to focus on, what to promote or what to exclude.

Nowadays, there are many ways and methods to check responsibility and to take it into consideration. It is possible to seek out responsible funds and green bonds directly for your equity portfolio, or to use ready-made lists and responsibility comparisons when making choices.

– Young people are critical and they can also look behind the terms and find out more about the background. For example, they follow the companies' marketing and responsibility reports.

## More financial education in schools

The non-profit Finnish Foundation for Share Promotion launched the Stockbroking Ambassador project in 2017 to improve the financial management skills of young

**Sari Lounasmeri, the CEO of the Finnish Foundation for Share Promotion, hopes that young people would think about how they use their money.**



**Young people's investment decisions often have a value-based approach.**

people. It was based on an increased amount of requests for school visits, as well as positive experiences from the neighbouring country.

– We had a real need for a network of volunteers who could visit schools. The inspiration behind this training programme was an extensive Swedish school programme. The strong financial know-how that begins already at school is one of the reasons behind Sweden's success, Lounasmeri believes.

The Economic Information Office (Taloudellinen tiedotustoimisto, TAT) has been teaching economics to Finnish Yr 6 and Yr 9 students with the Yrityskylä business village concept already for years. TAT's website also has a downloadable course on investment and entrepreneurship, including educational videos, aimed at vocational schools and secondary schools.

Financial education has also been added to the curriculum. Since autumn 2016, financial literacy has been taught already since Yr 4. In lower and upper secondary schools, economics is addressed in social studies.

– I'd really like to see there to be much more talk about investing and economics in general at schools. It would be particularly beneficial for girls. Currently, only about a third of investors are women, Lounasmeri summarises.

*aa*





The pulp mill at Ust-Ilimsk is due to be commissioned in July 2021.

# Giant construction project launched at Ust-Ilimsk, Siberia

**The pulp mill construction project for the largest wood processing company in Russia, Ilim Group, was launched this spring in the Arctic conditions of Ust-Ilimsk in Siberia as soon as the Siberian weather permitted.**

Tommi Ikävalko, Eija Öhrnberg  
PHOTOS Vilja Harala, Econet Group

It is estimated that this turnkey project will last 1.5 years, and on Econet's part, it is run by Tommi Ikävalko, a man with long and extensive experience in working in Russia.

## How significant of a project is this?

– Although all projects are significant in their own way, this is in a league of its own, definitely something you don't encounter every year. The € 13 million contract is important for us, and Ilim Group is an old client with whom we've been working already for many years. We were awarded this project because our clients trust our know-how and technology.

## What's Econet's area of responsibility in this project?

– We are in charge of the process, construction, pipeline, automation and electrical planning for the wastewater treatment facility of a new cardboard plant, and the delivery of the materials for these sections, excluding the cables, and we will also take care of the installation supervision, user training and implementation. The necessary materials are transported to Siberia by rail and by road transport.

## What does the project line-up look like?

– During the planning stage, the project team has altogether about thirty people, spread pretty evenly between Ilim Group, Advis Plus and Econet. However, at some stage, this project will involve almost everyone at Econet in some way. At its busiest time, there will have to be about five times as many people on the work site as there are now.

– The schedule has been arranged so that the plant commissioning would begin in July 2021, and the first runs in March 2022.

## What are the best and the most challenging aspects of this project?

– There could of course be more large projects like this, they're generally great for a company's finances. In addition to the usual challenges related to any project, the climate at Ust-Ilimsk sets its limitations.

Logistics planning also requires special attention. If all the necessary parts and materials were to be delivered by trucks, we'd need about 50 vehicles to drive about 6,000 kilometres from Finland to Ust-Ilimsk, and the trucks would have to stay on schedule regardless of the weather conditions. Luckily, some of the deliveries will be made by rail. *aq*

**AQ customer magazine will be following the progress of the Ust-Ilimsk project in the next, autumn issue.**



Tommi Ikävalko

# Sportsmanship and the joy of exercise

A team sponsored by Econet participated in the largest pond hockey tournament in Europe as Clean Water Ambassadors.

TEXT & PHOTOS Janne Karlsson

Sponsored by Econet, the hockey team Team VFR enjoyed the unique atmosphere of winter sports at the pond hockey tournament held at Ruka at the end of January. Team VFR won their first four games, but then suffered a stinging 6-7 defeat and was eliminated from the final rounds after their fifth match. The team aimed to play for victory, without taking the playful game too seriously.

Pond hockey is played in a team of 4, with two teams on the playing field without a goalkeeper, and with free substitutions. The players must have ice skates, a stick and a helmet, all other equipment is optional. One game is 15 minutes. At the Ruka tournament, each team started with 3-4 games, followed by playoffs.

Unfortunately, Team VFR were not in their best form during the first playoffs. Team captain, recruitment consultant **Olli-Valtteri Laaksonen** said that the tournament objectives were nevertheless met.

- We got to enjoy the atmosphere, the beautiful winter weather, the joy of exercise and great sportsmanship. An amazing event. It was definitely worth going.

Former professional ice hockey player **Toni Mäkiäho** was also on Team VFR. During his career, he was known for his hard tackling. Tackling is not allowed in pond hockey, though. During his active years, "Mäkkäri" earned a silver medal from the 1998 World Championships in Switzerland, and for a long while, he was the all-time penalty king in the Finnish Elite League.

The pond hockey tournament at Ruka is the largest of its kind in Europe, and it attracted nearly

100 teams of cheerful players. The event will be held again next year, already for the sixth time, and a record-breaking 100+ teams have already registered.

Econet's support to Team VFR ensured that the team had a great tournament. Many thanks for that!

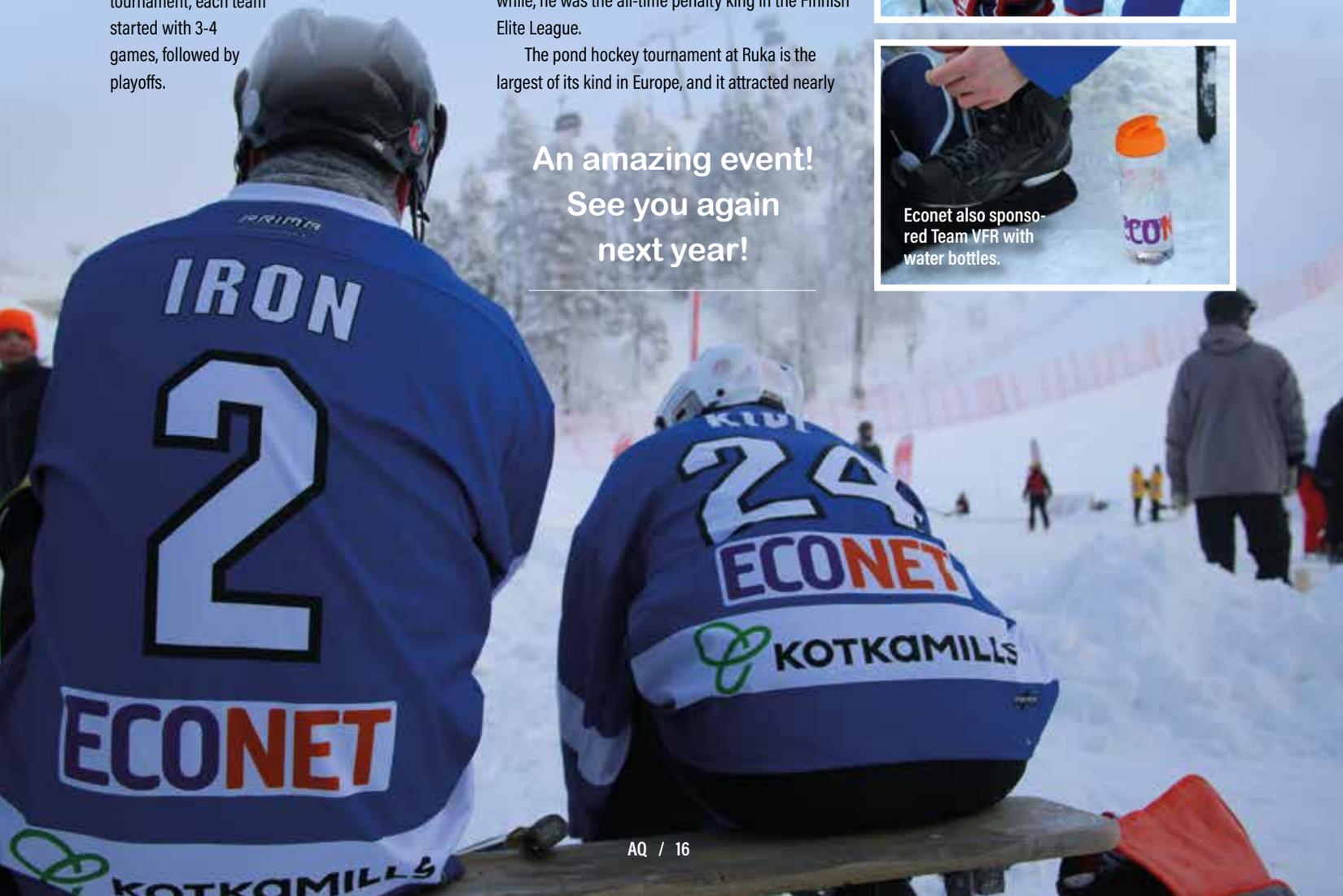


Pond hockey is played in teams of four.



Econet also sponsored Team VFR with water bottles.

An amazing event!  
See you again  
next year!



# Pharmaceutical residues in focus

## Pilot plant trials with removal of pharmaceutical residues from municipal wastewater at Rustorp wastewater treatment plant in Sweden are in process.

Hans Carlsson PHOTO Econet Vatten & Miljöteknik AB

**E**conet Vatten & Miljöteknik AB has been commissioned to build a pilot plant for the removal of pharmaceutical residues at Rustorp's wastewater treatment plant in the Ronneby municipality in the south of Sweden.

The Water Framework Directive will most likely involve major investments throughout the EU regarding the removal of pharmaceutical residues at municipal WWTPs in the near future.

Swedish wastewater treatment plants are designed neither for degradation nor removal of pharmaceutical residues and other persistent organic pollutants. The first municipal wastewater treatment plants extended with advanced treatment for the reduction of such substances are in operation mainly in Switzerland and Germany. Experiences from these and other countries are important in order to describe how different types of Swedish treatment plants can be upgraded and what the consequences would be in the form of, for example, increased costs and new health and safety aspects. Powdered activated carbon and ozonation are the two methods often advocated, although filtration through granular activated carbon is studied more frequently.

The purpose is to find out how ozonation followed by filtration through granulated activated carbon (GAC) can be combined to achieve a reduction

of pharmaceutical residues in the biologically treated wastewater by at least 80 per cent.

### Pilot plant started

The treatment steps in the pilot plant are drum filter, ozone reactor and a filter packed with GAC. The purpose of the drum filter is to achieve enough particle removal so that the concentration of suspended substance (SS) after the drum filter is less than 5 mgSS/l.

Biologically treated water that has passed through the final flotation unit is pumped to the pilot plant. The pump can optionally be set in the flow range 1 – 7 m<sup>3</sup>/h, which results in the following residence times being obtained in the ozone reactor and GAC filter: Ozone Reactor 10.3 – 72 min, GAC filter (max. filling) 10.8 – 75.6 min. Shorter residence time in the GAC filter can be obtained by having less GAC in the filter.

### A nine-week sampling programme

The sampling programme is intended to run for nine weeks, with the option of adding a few weeks after that to be able to verify interesting results. In addition, problems can arise during the period which means that the intended nine weeks are not enough to get through what is planned.

Table 1 shows a trial schedule for the trial period. By varying the ozone



Week number	Flow m <sup>3</sup> /h	GAC min	EBV accumulated	Ozone dose g/m <sup>3</sup>	t. ozone min
17	7	5.0	2017	2	10.8
18	7	5.0	4035	5	10.8
19	7	5.0	6052	8	10.8
20	7	10.0	7061	2	10.8
21	7	10.0	8070	5	10.8
22	7	10.0	9079	8	10.8
23	4.7	15.0	9750	2	16.2
24	4.7	15.0	10422	5	16.2
25	4.7	15.0	11093	0	16.2

### Plan for the different settings during the pilot plant trials (EBV = Empty Bed Volume).

dose and residence time in the GAC filter (by varying the flow and amount of carbon), the aim, in addition to finding that 80 per cent purification with respect to pharmaceutical residues can be achieved, is to obtain information on which combination of ozone dose and residence time in the GAC filter is most advantageous in terms of performance and cost. Admittedly, the residence time in the ozone reactor is also varied as the flow is varied, but in this respect it is most important to ensure that the residence time in the ozone reactor is

sufficient so that all ozone can react. The residence times obtained in these experiments are all sufficient. The last part of the planned trial period is a week where the ozone dose is zero, so as to get an idea of how the GAC filter can handle the task alone. This at a residence time in the GAC filter reported sufficient in such application.

Twenty different substances will be analyzed in weekly samples (weekdays, Monday through Friday) from the three points "before drum filter", "after ozone reactor" and "after GAC filter". *aq*

## Managing the marine litter in the Baltic Sea

Rubbish does not respect country borders, and it rarely contains any information about its origin. Rubbish can move about as a result of rain, wind, meltwater, flowing water and currents, and the purposeful actions of animals and people. Relatively light-weight plastic rubbish in particular can move far from its source. Rubbish also becomes disintegrated and brittle in nature, altering its size, volume and characteristics.

Cost-efficient measures are needed for managing marine litter. To target the measures correctly, it is necessary to have up-to-date information about the volume, quality, sources and routes of marine litter, for large pieces of rubbish visible to the naked eye as well as for microscopic

small litter.

Rubbish washed up on the shore is only a small part of all waste that ends up in the marine environment as a result of human actions. It is estimated that up to 70% of all marine litter is out of sight, on the bottom of the seabed.

Marine littering is monitored all over the world, also in the countries around the Baltic Sea and in Finland, mostly with the help of rubbish collected and classified from the coastline according to special instructions. In many countries, coastal rubbish data is supplemented by monitoring seabed rubbish, generally by bottom trawling.

Source: Finnish Environment Institute

#balticsealittering #marineenvironment

The next issue will be published in November 2020.



### DID YOU KNOW?

*Polluted water hinders economic growth.*

### DID YOU KNOW?

*The main substances that worsen the condition of groundwater are chloride, ammonium and old pesticides no longer in use.*

## No cleaning cloths, wet wipes or tissues down the toilet!

Due to the coronavirus situation, there has been a considerable increase in the use of various paper- and cotton-based hygiene products. It is now particularly important to practice good hand hygiene and general hygiene. Used disinfectant wipes must be put in a mixed waste container, not down the toilet.

Wet wipes and similar hygiene products that are flushed down the toilet can easily cause blockages in the sewers and the wastewater pumping stations. Unlike toilet paper, these products have been designed not to break down when wet.

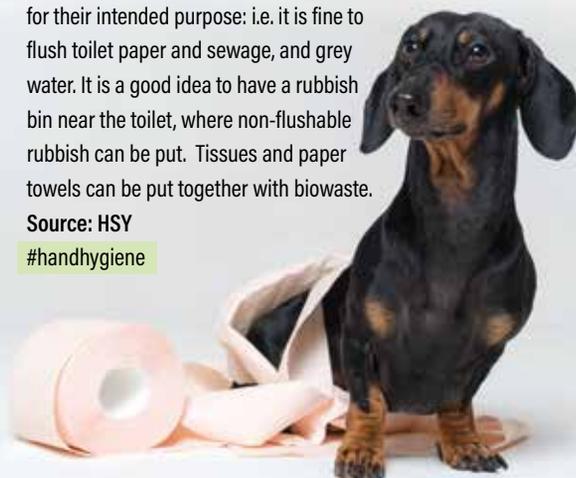
Dealing with clogged sewer pipes requires extra effort and expenses. Local water utilities are in charge of the maintenance of wastewater pumping stations and removing blockages, but

blockages can cause problems and pollution issues for the surrounding residents and environment.

Toilets and sewers should only be used for their intended purpose: i.e. it is fine to flush toilet paper and sewage, and grey water. It is a good idea to have a rubbish bin near the toilet, where non-flushable rubbish can be put. Tissues and paper towels can be put together with biowaste.

Source: HSY

#handhygiene



## DID YOU KNOW?

Since 2015, more fish has been farmed than beef.



A fish farm in Norway.

## Fish farms experiencing changes

The effects of climate change are visible in all waterways of the world. 95 percent of the fish consumed in Finland is farmed rainbow trout, mainly imported. Global warming causes issues for fish farming, especially for fish farms that are located close to the shore. Atlantic salmon farmed in Norwegian marine areas is more susceptible to variations in the water temperature than rainbow trout. In the Arctic Ocean, the rising temperatures

may even increase the volume of the catches. On the other hand, in tropical waters, rising temperatures will reduce fish stocks, making fish farming difficult.

The amount of farmed fish exceeded the global beef production in 2015, and fish farms produce nearly 2 billion kilos more fish every year.

Source: Natural Resources Institute Finland



## Climate hope instead of anxiety

There is plenty of knowledge, skill and technologies to solve the climate crisis, and the combat work is making constant progress. However, more political will is needed; now is the time to put words into action.

In order to be able to stop the impoverishment of nature, the UN Convention on Biological Diversity will be renewed in 2020. With regard to the climate crisis, decisive steps will be taken at the Glasgow Climate Change Conference in November. Countries must publish their stricter emissions reduction objectives already before the conference, so that it would be possible to reach the objectives of the Paris Agreement, such as limiting global warming to 1.5 degrees.

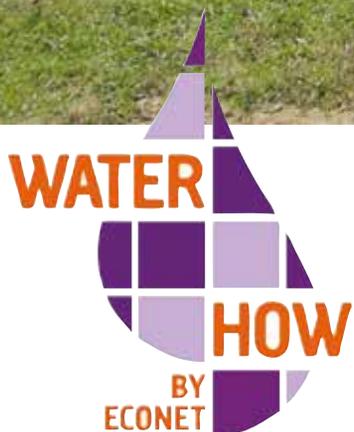
Source: [wwf.fi](http://wwf.fi)

[#climatecrisis](#), [#biodiversityagreement](#),  
[#climateagreement](#)





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