Finland's most energetic customer magazine » 2/2021



A massage gun relieves muscle pain **» p.6** An oasis n the heart of the city » p.8 Heating properties with seawater **» p.16**

Susanna Laine gets energy from water **» p.27**

Did you know that a drop of water can be as large as 1 cm in diameter?

Water is essential for all life and an initiator of agriculture and human culture. Water can also be used to transport and store energy.

Psst! Turn to page 16 to find out how heat can be produced from seawater by using heat pumps.



Powered by water

EDITORIAL » Water and energy go together like summer and flies. Streams of water are used to generate electricity and water is also used to transport district heating and cooling to homes. At home, we enjoy heat delivered by water when we take a shower and in the form of heat from radiators or underfloor heating.

When we look for new ways to produce energy in a carbon-neutral manner, we find that the significance of water grows further. It is possible to recover waste heat from the treated wastewater of cities before it is discharged into the sea. It is also possible to collect thermal energy from seawater to heat a city. Heated water can be stored in massive caverns for use on freezing cold days.

The water cycle is unpredictable. Precipitation and meltwater determine the amount of zero-emission hydropower available. At the start of the year, we invested in Think Outside, a Norwegian start-up that has developed a technology to predict the amount of meltwater in mountainous areas to optimise hydropower production. Read more on Think Outside on page 4.

Water is an elixir for clean energy production. It makes it possible to solve many of the challenges of carbon-neutral energy production.

"Water is an elixir for clean energy production."

Timo Aaltonen Senior Vice President, Operations and Asset Management

A SOURCE OF PRIDE

Targeting 1,000 charging points

Helen's target is to grow its network of public charging points from the current level of 250 charging points to more than 1,000 by 2025. New charging points are being continuously installed in Finland, especially in major cities, along highways and at traffic hubs.

The charging points in Helen's public charging network charge vehicles using clean wind power.



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Energy!

Read about current phenomena and news. Pick up tips for smooth daily life.

#summer A picnic is a great way to enjoy the summer! Pack a basket with your favourite foods and head out to nature with family or friends. When you get to your spot, spread a blanket on the ground. If you're concerned that the ground is wet, you can put a shower curtain under the blanket. Add to the fun by bringing along a social game such as mölkky or pétanque. TRENDSETTER

Energy forecaster

Monica Vaksdal founded Think Outside to optimise the production of electricity from snow.

Approximately 40 per cent of the world's hydropower comes from snow melt. The rate of snow melt is influenced by the temperature and the composition of the snow. It is essential for hydropower companies to know the rate at which meltwater fills dams so they can avoid discharging them excessively or producing too much electricity at the wrong prices. The data generated by the Norway-based Think Outside helps hydropower companies optimise their production.

Think Outside was established in 2017 and its head office is located in Bergen.

"We started by producing information on avalanches for skiers. Then hydropower companies became interested in our technology," says Monica Vaksdal.

She is the founder and CEO of Think Outside and a visionary. At its heart, the company's Sknow technology is the same as the technology used by geologists to survey oil and gas deposits.

"We measure snow layer by layer using sensors installed on fixed and mobile radar devices. By combining the data with weather forecasts obtained from satellites, we can create accurate forecasts of snow melt at different times," Vaksdal explains.

"Helen Ventures provides us with valuable support and insight from an energy industry expert."

DID YOU KNOW?

Helen Ventures invests in innovative start-ups that have the ability to shake up the energy sector. Through partnership, groundbreaking ideas can grow into large-scale action. "We can create accurate forecasts of snow melt at different times."

HELEN 2/2

#solarpower Solar power capacity continues its steady growth. In Finland, solar power capacity has doubled every year since 2016.

This spring, recreational clubs and groups have joined YouTuber Roni Back to teach tricks and stunts to the general public as part of Helen's "good energy" campaign. Check out the latest videos and find out which clubs won €5,000 grants: helen.fi/hyvänenergianseura

HOW IRRESPONSIBLE IS IT ...

...to leave your electric toothbrush at home when you go on holiday?

It is irresponsible. Studies show that electric toothbrush users have much less dental plaque than people who use an ordinary toothbrush. The bacteria in dental plaque cause gingivitis, periodontal disease and tooth decay. If your electric toothbrush has a lithium ion battery, you shouldn't let it discharge fully or charge it completely full, as that will reduce its service life.

Photos. GETTV IMAGES

#theeasiestway Did you know that solar power is one of the easiest ways to save on your electricity bill? Helen delivers solar panels to your roof as a turnkey service. All you need to do is switch on the electricity. More information: helen.fi/sehelpointapa

Hello, I knead your muscles!

A massage gun provides quick relief for muscle pain and tight muscles. "Charge the battery in your massage gun fully before the first use. This takes several hours. When charged, the battery typically provides 1–3 hours of use, which is enough for many treatment sessions."

> PARTICIPATE in our reader survey on page 26 for a chance to win a massage gun.

<mark>1</mark> What is a massage gun?

Perhaps due to the increase in remote work, massage guns are now being used to knead tired and tight muscles in more and more homes. A massage gun relieves muscle pain and tightness in the neck, back, arms and legs. You can also use one to warm up your muscles before exercising or enhance your recovery after a workout.

2 How does it work?

Place the massage gun's attachment on the muscle group you want to massage. The device sends pressure waves into the muscle and stimulates nerve endings. The operating manual provides precise recommendations on the duration and direction of treatment for each muscle. For example, you can massage your quadriceps in a downward direction twice for 30-45 seconds.

3 How do you use it?

You can get the attachment on a massage gun to rotate at various speeds: the higher the rotation, the stronger the effect. If you're a new user, you should start with the lower speeds. Massage guns come with several attachments. The ball-shaped attachment suits large muscle groups, the bullet attachment is for deep muscle groups and the flat head can be used for the entire body. **#electricvehicles** Helen has installed rapid charging stations for electric vehicles at all of Citycon's shopping centres in Finland. Visitors can charge their electric car in about one hour at Iso Omena, Myyrmanni, Koskikeskus, Trio, IsoKarhu and IsoKristiina, for example.

Let's find out ... about mobility

Electricity powers non-car mobility in many ways.

	What?	How much power?	What else?
PEDAL-ASSIST BIKE	A bicycle that requires muscular effort to move. The motor only works when the bike is pedalled.	The maximum power is 250 W and the maximum speed is 25 km/h. The motor switches off when the speed exceeds that limit.	The traffic rules are the same as for a normal bicycle. Ped- al-assisted bikes do not need to be registered or insured.
SPEED PEDELEC	An electric moped that needs to be ridden on the road unless the bicycle path has a sign indicating that mopeds are allowed.	The electric motor has an output of 1-4 kW and a maximum speed of 45 km/h. The rider must have a moped licence at a minimum.	Registration and traffic insur- ance are required for electric mopeds.
ELECTRIC SCOOTER	A scooter with an electric motor powered by a battery.	Children's e-scooters have a power output of 100–150 W and adult versions 250– 350 W.	You can go 10-30 kilome- tres on a charge. The range varies a lot between different models.
ELECTRIC SUP	A stand up paddle board with an electric motor. Com- patible with boards with a slide-in fin.	The power output can be 250 W, for example, and the motor can have three for- ward gears and one reverse gear.	Provides 2-3 hours of use when fully charged. The motor is controlled by a wireless remote that can be placed in a waterproof case.

New features added to the Oma Helen mobile app

You can now use the Oma Helen app to access information on your solar panel output and the use of your virtual battery.

You can also schedule electricity consumption in your household according to solar power production times to maximise efficiency. The app makes it easy to monitor your production and consumption at the hourly and daily levels.

Oma Helen also keeps you up to date on invoices, your electricity contract and other energy-related issues. You can also use it to quickly get in touch with Helen's customer service.

PHOTO: HELEN

helen.fi/omahelen

#districtheating Heat from data and electricity? That's right. Telia and Helen are planning to connect Telia's data centre in Pitäjänmäki to the district heating network and use heat collected from the data centre to heat homes in Helsinki.

JOINING FORCES

A pool in the heart of the city

Allas Sea Pool is a floating sea pool where people can enjoy zero-carbon swimming and saunas thanks to Helen's solar power, hydropower, Recycled Heat and cooling solutions.

N MIN H W

m

"Allas Sea Pool is one of Helsinki's most popular attractions"

LOCATED NEXT TO MARKET SQUARE IN HEL-

sinki, Allas Sea Pool is full of positive energy all year round. Swimmers can enjoy a seawater pool and a floating warm water pool. There are three saunas, each with excellent views of the sea.

"At our wellness facilities, we organise various activities from boxing workouts to acro-yoga and Friday afternoon wine and stretching relaxation sessions," says Bodil Ståhl, CEO of Allas Sea Pool.

Children's summer camps include swimming and other outdoor activities. There is a courtyard with event space for concerts and corporate events.

"This summer, we will host at least 50 COVID-safe concerts, with an assigned chair and table for each guest if necessary."

Sustainable energy consumption is essential for a sea pool that is open all year round.

"We developed smart and sustainable energy solutions right from the start."

Customers can enjoy the pool with a clear conscience every day of the year

knowing that the energy used by this oasis of saunas and swimming pools is completely carbon-free.

"The 92-panel solar power plant on the roof of our property produces clean electricity from April to late September. In addition to solar power, we use hydropower-certified electricity."

The indoor areas and the outdoor pool are heated by Helen's Recycled Heat, which is a carbon-neutral district heating solution that uses recovered heat from data centres and wastewater cleaning processes. On hot summer days, the indoor areas are cooled by carbon-neutral district cooling.

Allas Sea Pool and Helen work together to promote sustainable energy consumption.

"Our future development plans include the use of heat from seawater to heat the water in our pools," Ståhl explains.

"We intend to bring the delightful experience of a year-round sea pool to other cities as well. Turku and Oulu as our next locations in Finland."

Located in Helsinki's Eteläranta district, Allas Sea Pool is a spa and an oasis of urban culture. Its parent company is the Helsinki-based Nordic Urban.

Restaurants on three floors are operated by the restaurant company NoHo Partners.

Allas Sea Pool attracts around 800,000 visitors per year.

8+1 sustainable choices

for how to spend your summer

Take a local holiday to a hotel in your hometown and travel there using public transport. Choose a hotel with an eco-label that indicates sustainable choices regarding water and energy consumption and the reduction of waste, for example. 2 Surprise visitors to your summer cottage with delicious plantbased food. You can pop tasty vegetables on the grill. Replace meat-based sausages after a sauna with vegan sausages and spice up your barbecue party with bean-based steaks. Rent an electric car and go on a summer road trip. Enjoy clean motoring and the beautiful scenery of Finland. Electric cars are a smart choice for climate-conscious people. There is a comprehensive network of charging stations around Finland.

Taking the train is also a green choice. Finnish passenger trains are emission-free. Your hands won't be tied to the steering wheel and your children will play and move around instead of whining on the back seat.

Take a walk in a forest. Instead of travelling to a national park, take a hike in nature where you live. Learn to identify edible wild herbs and pick them up along the way. Spring and early summer are the best times for this. You also get exercise at the same time. **5** Take advantage of the summer sun and install solar panels on the roof of your holiday home. The sun provides you with renewable energy for weekends and holidays from early spring to late autumn. Helen delivers solar panels all across Finland.

Spend on health and wellness. Buy a gift card to a massage therapist for yourself or a friend. Many wellness services are completely Finnish work and their adverse environmental impacts are limited to what it takes to maintain a small space. 6 Create a green yard with trees, shrubs and herbaceous plants. Choose natural plants that are native to Finland. Avoid unnecessary lawn mowing and let flowers bloom to support pollinating insect populations. Avoid using herbicides and pesticides.

When the situation allows it, treat yourself to a cultural experience. Money spent on concerts and theatre typically have a high employment effect and low environmental impact. Bring a friend to share the joy.

Learn more about Helen's sustainable summer energy partners at www.helen.fi/summer2021 and find fun summer activities to enjoy with your family and friends. You'll also get a chance to win free tickets to Allas Sea Pool, for example. Everything you ever wanted to know about water — and more.

Vale

At 36 metres, Korkeakoski in Maaninka is the highest waterfall in Finland.

> Essential for all life. An initiator of agriculture, human culture and trade. A provider of pleasure and joy. It's hard to think of anything more important than water.

Text: Kati Kelola | Photos: Janne Niiranen and Getty Images

The mountain ystem formed by he Himalayas, the (arakoram and the lindu Kush is a reshwater source or more than a ollion people.

Water is at the triple point at a temperature of 0.01°C and pressure of 0.006 bar. At the triple point, the three phases of water – solid, liquid and gas – are at an equilibrium, making it possible to change it to solid, liquid or gas by making tiny changes in pressure or temperature.

H₂O. EVERYONE KNOWS THIS FORMULA.

Water is such a central element of our daily life that we don't recognise its significance unless we stop and think about all the things we couldn't accomplish without it. We use it to boil pasta and potatoes, wash ourselves and clean our floors, heat our homes and create steam in the sauna.

We use water for cleaning, dissolving, heating and cooling. It's a source of food. It provides us with joy and pleasure. We are a species that enjoys swimming, diving, boating, skating and so on.

AS A SPECIES, WE ARE COMPLETELY DEPENDENT ON

water. You can survive for a few weeks without food, but only a few days without water. Water accounts for most of our body weight: 75 per cent for a newborn, 60 per cent for a muscular man. The amount of water in your body is influenced by your age and body composition.

Most of the water is stored in our cells. It leaves the body by evaporating off the skin, through the airways, in sweat, urine and faeces. To maintain a healthy fluid balance, an adult should drink 1–2 litres of water per day. Water is part of the Finnish national identity: this is the land of a thousand lakes. There are 57,000–168,000 lakes in Finland depending on the method of calculation. The lower figure includes lakes with an area larger than one hectare. The higher figure includes lakes with an area of at least 500 square metres.

ALL LIFE ON EARTH DEPENDS ON WATER. WATER COV-

ers about 75 per cent of the Earth's surface, which is why our world is sometimes called the Blue Planet. Water is in a continuous cycle. It evaporates into the air, rains down and ends up in bodies of water.

Before the 1700s, water was thought to be a chemical element. Experiments with hydrogen conducted by the British scientist Henry Cavendish revealed that water was formed by the combustion of hydrogen.

We now know that a water molecule consists of two hydrogen atoms linked by covalent bonds to one oxygen atom. Unlike many other elements in nature, water has three phases: solid (ice), liquid (water) and gas (water vapour). Phase changes can be achieved with minor changes in temperature.

According to current knowledge, agriculture began around 9000 BCE in the Middle East in the Fertile Crescent and the Nile valley, where water was plentiful. Figs are the oldest cultivated crop we know of.

> The Amazon has a higher volume of water than any other river. It carries more water than the Nile, the Yangtze and the Mississippi River combined.

Water retains thermal energy. In Finland, we benefit from warmth carried by the Gulf Stream, which makes our climate more moderate than what is typical for these latitudes.

THE AMAZON, NILE, TIGRIS, EUPHRATES, YANGTZE, GAN-

ges, Congo, Mississippi, Rhine, Thames, Volga... When you hear the name of one of the world's major rivers, you immediately think of great cultures and inventions.

The Amazon is the largest river on Earth. Although it is rivalled by the Nile for the title of the world's longest river – both exceed 6,000 kilometres – the Amazon has a higher volume of water than any other river. It carries more water than the Nile, the Yangtze and the Mississippi River combined.

You could say that water has created human culture, trade and agriculture. Rivers can be considered the world's first highways. People travelled on rivers long before the first roads were built. Rivers have carried both goods and ideas. Without rivers and other bodies of water, it would be unlikely that any culture would exist as we know it. It is no coincidence that the first great cultures emerged in the fertile valleys around rivers such as the Nile, the Euphrates, the Tigris, the Indus and the Yellow River.

Even today, many of the world's major cities are situated by a river. Rivers are also holy places, as in the case of the Ganges in India, which is believed to be a manifestation of the goddess Ganga.

ALTHOUGH WATER IS THE MOST PLENTIFUL SUBSTANCE

on Earth, most of it is not suitable for human use. Some 97 per cent of the water on Earth is salt water. Freshwater accounts for less than three per cent of the total, and only one per cent is easily accessible for use as drinking water or for irrigation, for example.

There are no water shortages in Finland but, in the future, one of the major challenges facing humankind will be having adequate water, especially for food production.

"Agriculture is the sector that has the highest level of water consumption," says Senior Scientist Suvi Sojamo from the Finnish Environment Institute. Antarctica - the world's largest ice sheet - holds more than 60 per cent of the Earth's total freshwater.

Showering and toilet flushing represent most of the water consumption of Finnish households. A five-minute shower can use up 60 litres of water and flushing the toilet can use up 6 litres each time.

"Water shortages are already a practical issue for billions of people around the world. As many as four billion people suffer from water shortages each year."

Most of the world's freshwater is locked away in ice. Antarctica – the world's largest ice sheet – holds more than 60 per cent of the Earth's total freshwater. The mountain system formed by the Himalayas, the Karakoram and the Hindu Kush is best known for the highest peaks on Earth, including Mount Everest, but it is also referred to as "the Third Pole".

IN HELEN'S OPERATIONS, WATER PLAYS AN IMPORTANT

role in many respects, including the goal of carbon-neutral energy production. Water can be used for the transport and storage of thermal energy.

Water is a medium and a carrier of energy. It can transport energy of all types. Helen has hot water flowing through its district heating network and cold water in its district cooling network," says Janne Rauhamäki, Vice President, Energy Business Development.

Water provides the framework for the development of new climate-neutral technologies. It can be used to recover heat. Helen recovers waste heat from sources such as purified wastewater, industrial processes, data centres and properties.

"The heat content remaining in wastewater is typically slightly over 10°C. We use heat pumps to recover it and transform it for use in the district heating network."

Next year, Helen will also start to collect heat from seawater. A heat pump that takes advantage of the thermal energy in seawater is currently under construction in Vuosaari. The captured thermal energy is used for district heating.

Seawater is also used for cooling.

"Cold seawater can be directly used in district cooling," Rauhamäki points out.

"We use it for the cooling of properties. The excess heat that is removed from the properties in the form of warmed water is then transformed into district heating by heat pumps."

Water also serves as energy storage, akin to a battery. It can be used to capture excess heat that will later be used for heating. Helen's new heat cavern will be completed this year in Mustikkamaa.

Water has a relatively high specific heat capacity: 4,186 kJ/(kg°C). The corresponding figure for dry wood is 1.5 kJ/kg°C). Water can discharge or store a large amount of heat relative to a fairly small change in temperature.

> A heat pump that takes advantage of the thermal energy in seawater in the Gulf of Finland is currently under construction in Vuosaari. The captured thermal energy is used for district heating.

"It will contain 320,000 cubic metres of water, which is equal to the volume of water in Töölönlahti Bay."

Helen also has a cold water cavern under Esplanadi.

"During periods of hot weather, we can discharge cold water from the cavern for cooling."

In electricity production, hydropower serves as valuable balancing power. It enables more extensive roll-out of other renewable energy forms than what would otherwise be possible.

"Hydropower helps increase the use of other, less consistent energy sources – such as wind and solar power – in electricity production, as hydropower can be used to generate electricity even in the absence of wind or sunshine."

OUR HABITS INFLUENCE THE ENTIRE WORLD'S WATERways and the availability of freshwater.

"An estimated 50–80 per cent of the water consumption of Finnish consumers takes place outside Finland's borders," says Suvi Sojamo.

Most of the consumer goods and materials we use come from abroad. So, when you buy an avo-

cado or a T-shirt, you become part of a global chain of water consumption. Their production uses up a lot of water, even if the impacts are not seen here in Finland. They influence our water footprint.

According to Sojamo, you can reduce your water footprint in your daily life by eating mostly plantbased food, reducing food waste, buying domestic products and generally focusing on consumption in moderation.

Sojamo is currently in charge of the Water responsible Finland 2030 project, which aims to make the water consumption of Finnish enterprises more environmentally and socially sustainable. The conservation of water ecosystems and waterways is also part of sustainable water consumption.

"Water issues have not received as much attention as climate and biodiversity issues, but they are very closely linked to each other."

According to Sojamo, water is not only a vital natural resource for people, but bodies of water also have intrinsic value.

SOURCES: BAS.AC.UK, DUODECIM.FI, ESA.INT, ILMATIETEENLAITOS. FI, MAANMITTAUSLAITOS.FI, NASA.GOV, NATIONALGEOGRAPHIC.COM, TERVEYSKIRJASTO.FI, YLE.FI, WORLDBANK.ORG, SYKE.FI

Heat from seawater

In the future, buildings in cities may be heated by heat pumps that capture heat from seawater with a temperature as low as 2°C. This type of heat pump plant can generate as much as 15-25 per cent of the heat required in Helsinki on a cold winter's day. Infographic: Henna Ryynänen

EVAPORATOR

In the heat pump's evaporator, seawater with a temperature of 2°C comes into contact with liquid and gaseous refrigerant and gives up heat. The refrigerant is vaporised entirely.

WATER DISCHARGED INTO THE SEA

Now cooled down to 0.5°C, the seawater is discharged back into the sea.

COMPRESSOR

The gaseous refrigerant picks up kinetic energy in the compressor's wheel. This increases its pressure, which also increases its temperature.

CONDENSER

In the condenser, the heated gaseous refrigerant comes in contact with 45°C district heating return water and discharges heat to it. The refrigerant condenses back from gaseous to liquid state.

HEATED DISTRICT HEATING WATER

Now heated to 90°C, the district heating water is channelled out to heat properties.

EXPANSION VALVE

The condensed liquid refrigerant is channelled into the expansion valve, where its pressure and temperature fall and it is partly vaporised. The process then starts again from step 1.

HEAT PUMP

- A heat pump's COP (Coefficient of Performance) is 2.5-3.0.
- The COP illustrates how efficiently a heat pump converts electrical energy into thermal energy. If the COP is 3, the heat pump generates 3 MW of heat for each 1 MW of electricity consumed.

SEAWATER PUMP PLANT

The seawater pump plant pumps seawater to the heat pump.

WATER INTAKE TUNNEL

- Water intake tunnel length: 15-20 km.
- Water intake depth: ~50 m.
- Tunnel size: ~25 m².
- Tunnel diameter ~6 m.
- · Seawater flow rate: 30-50 m³/s.

Water dowser

ME & WATER

In the village of Kuohijoki in Pälkäne, Mika Tervaniemi not only runs a farm, a village shop and an HVAC business, he also dowses for water based on an old tradition.

When I was little, an elderly man showed me how to dowse for water using a rod made from a willow branch. It wasn't part of my family's tradition and I started doing it just for fun. Lsunk my first well when I was about 15 or 16 years old.

You need large quantities of water in agriculture. If the vein of water is not large enough, the well will not produce enough water. A well used for drinking water can't be a puddle of leachate. It needs to be clean groundwater.

The typical depth of a well is 4.5 metres. When the groundwater level is low during a dry summer, you can't build a well if you can't find the vein of water underground. A dowsing rod made from a willow branch can help you find it.

Some people can dowse for water, some can't. When my daughter picks up the dowsing rod, she ends up at the same vein of water as I do. My son doesn't. I don't know where this ability comes from. There is no rational explanation or scientific basis for it.

I started an HVAC business 20 years ago. Since then, I've done HVAC jobs and worked on our farm. We have 25 hectares of cultivated land: barley, wheat and oat.

We also have some forests we need to manage. In the summer, we have a bakery, summer shop and café at our farm.

In the countryside, people think it's perfectly reasonable to have someone come in and dowse for water. There are no disputes about whether it's nonsense or not. That said, I don't see dowsing as a profession of mine. You can't really price this service. "The dowsing rod should be a Y-shaped willow branch. I use a fresh and pliant willow branch. It's a cheap tool. You don't have to pay for your equipment," says water dowser Mika Tervaniemi.

MIKA'S TIPS How to dowse a site for a well:

Avoid sites with standing water.

Search groundwater by digging. Use a geological map. 9 TRICKY QUESTIONS

Did you know this about water?

Find out how much you know about the elixir of life?

1

What's the freezing point for seawater of average salinity? A. 0°C B. -2°C C. -4°C

4

What percentage of the world's human population lives in the drier hemisphere? A. 75% B. 85% C. 95%

2

What percentage of a jellyfish is water? A. 75%

- **B.** 85%
- **C.** 95%

5

How much water do Finns consume per day on average? A. 80 litres B. 140 litres C. 200 litres

7

What is the world's deepest lake (1,620 m)?

- A. Lake Baikal
- B. Caspian Sea
- **C.** Lake Tanganyika

8

What is the weight of a cubic metre of water?

- **A.** 100 kg
- **B.** 1,000 kg
- **C.** 10,000 Kę

3

How much does water expand when it freezes? A. 0% B. 9% C. 18%

6

What percentage of a newborn child is water? A. 55% B. 65% C. 75%

What is the deepest lake in Finland (94.5 m)? A. Lake Päijänne B. Lake Inari C. Lake Saimaa

PHOTO: GETTY IMAGE:

EXAMPER KEX: 18'5C'2B'4B'2B'6C'1A'8B'6F'

Saimaa is one of Finland's deepest lakes – but is it the

deepest?

Neitokainen's length is 1/10,000 of the total length of Finland.

2402

THE BIG PICTURE

The magic of Lapland

Kittilä is home to Neitokainen, the most stunning artificial lake in Finland.

Happy birthday!

Neitokainen turns 30 this year. Also known as Lake Neitojärvi, Neitokainen was born in Kittilä's Vesikkovaara in 1991. It is an artificial lake with a length of 116 metres and an average depth of one metre. What makes Neitokainen special is that it's the shape of Finland. Its length is 1/10,000 of the total length of Finland. It took one week for two excavators to dig the artificial lake.

The original plan was to build a holiday resort with a hotel and chalets. Neitokainen was intended to be the attraction that draws tourists into the resort. However, the 1990s recession put a stop to the development plans.

Neitokainen's water comes from groundwater and there is an outlet in "the arm of the Maiden of Finland".

Lighthouse builder

Tadashi Kawamata creates art from scrap reclaimed from Vallisaari. Text: Jouko Vuorela | Photos: Maija Toivanen and Matti Pyykkö

What made you decide to build a lighthouse in Vallisaari for the Helsinki Biennial?

There are a lot of tunnels on Vallisaari island where people used to spend time. Lately, the island has been vacant.

I wanted to take the energy used underground over the centuries and bring it up and out of the tunnels, shining for everyone to see. The lighthouse allows the energy to shine high out to the sea and invite people to visit the island.

I had a couple of other ideas too, but they were either impossible due to permit issues or unfeasible from a technical standpoint. This is how feasible ideas are born. One step at a time.

What is the lighthouse made of?

It has a sturdy frame built from wood according to my instructions, which makes it safe and ensures it holds up to strong winds. The frame is covered by scrap lumber collected from Vallisaari. The lumber was left over from construction work carried out on the island. This way, they don't need to be thrown away.

I've never built a lighthouse before. Working at a height of over 10 metres on a lifting platform was also quite challenging in a technical sense.

Why do you use scrap lumber to create your art?

Nothing lasts forever. Even millennia-old buildings eventually fall apart. That's why it's important to reuse their materials. My work gives new life to materials that people think are completely used up and needless.

What made you decide to participate in the Helsinki Biennial?

I've never visited Helsinki or Finland, so this is a new and interesting experience for me. The Biennial having an exotic location on an island was also attractive to me. I've never created a work of art in this type of environment before.

What inspires you as an artist?

Long ago, when I was a student, I was interested in paintings. From there, I moved on to visual arts. These days, I'm interested in giving new form to old and often abandoned scrap lumber.

The idea of this lighthouse is to show energy in a new light. In your opinion, in what light should energy be seen – for example, in relation to nature?

I'm not an environmentalist, but I am concerned about the environment and nature. We need to find a way to produce energy without energy production posing a threat to our way of life.

What do you think about the nightless nights of Finland?

This is my first time visiting Finland in the summer, but I have visited other Nordic countries before and experienced the bright nights of the North. Nature is beautiful here during the quiet hours of the night. "My work gives new life to materials that people think are completely used up and needless."

Tadashi Kawamata Artist

Facts

The inaugural Helsinki Biennial will be held on Vallisaari island from 12 June to 26 September 2021. The theme of the event is "The Same Sea", which is a reminder that everything is interconnected and therefore mutually dependent.

Thereafter, the Helsinki Biennial will be a biennial international art event that will bring outstanding contemporary art to maritime Helsinki.

Helsinki Biennial will present 40 international artists or groups of artists from Finland and around the world.

Helen is one of Helsinki Biennial's cooperation partners and illuminates the Vallisaari Lighthouse artwork with solar electricity. A container located near the artwork has solar panels on its roof and it contains an electricity storage system which ensures that solar electricity remains available even when the sun is not shining.

Tadashi Kawamata is a world-famous artist whose art extends to history, architecture and urban planning. For the Helsinki Biennial, he is building a lighthouse as a landmark on Vallisaari island. SUDOKU

Sudokus' solution: helen.fi/sudoku

READER SURVEY

Send us your feedback and win a prize!

Which of the stories in this issue was the most interesting to you? You can also let us know what you would like to read about in Helen magazine. Participate in the survey by 11 August 2021 at helen.fi/ magazine-feedback or send a postcard to Helen, Helen

magazine, 00090 HELEN. Don't forget to write your contact details and customer number on the card.

Water

I start and end each day by having a large glass of water. If I don't drink two litres per day, l get a headache. I feel tired and I might get snappy and ineffective.

Sweets

Buns, chocolate, almost anything will do. I enjoy sweet treats a few times a week with a clear conscience. I tend to eat a decent amount. The worst thing about enjoying sweets is only allowing vourself to have a little bit.

3

HIIT workouts

A few times a week. I do 20-minute high-intensity interval training workouts at home. It's reinvigorating. Other than that, I mostly walk and attend dance classes occasionally.

7 SOURCES OF ENERGY

Susanna Laine

Facts

Susanna Laine is a veteran TV host and actor

She has hosted the shows Puoli seitsemän and Tuttu Juttu, for example, and performed with Uusi Iloinen Teatteri.

This spring, Susanna is in the cast of Salatut elämät on MTV3.

Nature

Living in the city centre, I've realised that I long to be in nature. It brings my heart rate down and gives me peace.

Friends

6

I have hilarious friends. We have deep conversations that make me feel amazed to be alive.

Performing

It takes energy, but it also gives you energy. If you feel light when you get in front of the camera and you don't have to force it, it energises you. But sometimes it can drain you completely.

Music

7

I listen to music every day. I enjoy everything from classical to metal. also get energy from singing but, lately, I have opened the fall board of my piano at home only about once a month.

TREASURE TREASURE

The amount of water on Earth is constant, which means we drink the same water as the dinosaurs once did.

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