Finland's most energetic customer magazine » 3/2021



lce cream made with solar power *** p.4** How to choose the right headphones *** p.7**

<section-header><text>

Psst! In this magazine, you'll also find many useful tips and information related to energy consumption in daily life.



The green shades

EDITORIAL » The world is changing quickly and the energy industry is no exception. In a time of major transformation, the industry's future is painted with an increasingly wide range of colours. At Helen, we are always looking for new ways to build a carbon neutral future.

One of the most interesting energy-related discussions at present revolves around green hydrogen, which will complement the energy palette of the future. Emission-free hydrogen can replace fossil fuels where direct electrification is not an option. New uses for green hydrogen are being sought to reduce the carbon dioxide emissions arising from heavy transport, chemical industry processes and the production of fertilisers and steel, for example. This is an effort that we at Helen are participating in.

We are driven by our goal of producing clean energy, our passion for researching and adopting new solutions and technologies as well as our commitment to offering the best products and services for our customers. Join us on our journey towards a cleaner future. Starting on page 11, you'll find an article that explains what hydrogen is and its role on earth – in the past, the present and the future.

"We are always looking for solutions for our customers to reduce carbon dioxide emissions."

Sari Mannonen Senior Vice President, Solutions & Portfolio

A SOURCE OF PRIDE

No more pile of coal

The use of coal as a source of heating energy in Helsinki is coming to an end. Helen will close the Hanasaari power plant by the beginning of April 2023, nearly two years earlier than planned. The Salmisaari power plant is planned to be closed by 2029 at the latest. The City of Helsinki is committed to achieving carbon neutrality by 2030.

Read more on the shift to carbon-neutral district heating on pages 24-25.





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Energy!

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



#athome Bring light to the darkness of autumn! Brighten up the greyness of November with a three-course candlelit dinner. Enjoy a delicious appetiser followed by a main course prepared from the best ingredients and finish off with a tasty dessert. Don't forget to put on music to create the right atmosphere. Bon appétit!

TRENDSETTER

Tasty ice cream

3 Friends makes ice cream from premium ingredients with no excess air.

One day, three friends had the idea of starting an ice cream factory. They ordered an ice cream machine online and used it to make delicious ice cream in their home kitchen. They travelled to Italy to learn more about making great ice cream and then established the 3 Friends ice cream factory in Helsinki's Kontula district. The first customer tasting event in February 2013 was a success.

"It's not enough to make ice cream that's pretty good. We use genuine ingredients to make ice cream with a taste that people can recognise even with their eyes closed," says Heikki Huotari, CEO of 3 Friends.

Today, 3 Friends ice cream is made in Kivikko at a factory powered by Helen's renewable electricity and heated by Helen's emission-free Recycled Heat. Solar panels were installed on the roof of the factory in summer 2021.

"Our production volume peaks in the summer. In July-August, we used solar power to produce 500 litres of ice cream every day."

Today, 3 Friends ice cream is sold at over 5,000 locations in Finland and Sweden.

"Last summer's big hit was the vegan Liquorice & Raspberry flavour."

DID YOU KNOW?

Business Finland grants energy aid to companies for solar power projects – 3 Friends has also received energy aid for its solar panels. 3 KAVERIA

JERIA JERIA **3KAVERIA**

Raspberry & White Chocolate has been our most popular flavour since the beginning. **#services** Have you started using the Oma Helen application yet? With our old e-service Sävel Mobiili being discontinued in the coming months, this is a good time to start using Oma Helen. More information: helen.fi/omahelen



PHOTO: GETTY IMAGES

You can prepare for a power outage by having an emergency kit consisting of a torch and batteries, a battery-powered radio, firewood (if you have a fireplace), drinking water, food that can be cooked without electricity and some cash.

T	IPS FOR HAVING THE EASIEST
C	HRISTMASEVER
1	THINK ABOUT WHAT MAKES CHRISTMAS
ľ	SPECIAL FOR YOU AND FOCUS ON THAT
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HOW IRRESPONSIBLE IS IT ...

...to warm up your car through the night?

Ouch. It is irresponsible. Setting a timer to warm up your car for two hours is enough. If you have a 600W block heater in with a 1200W interior heater and the price of electricity is €0.13/kWh, warming up your car for two hours every day from the beginning of November to the end of February costs you €56. If you had the heater on for 10 hours every night, your electricity consumption would be five times higher. This answer was provided by Energy Advisor **Sari Loukasmäki** from Helen.



#geothermal The drilling of Helsinki's first medium-depth geothermal plant will began in September. The Ruskeasuo geothermal plant will serve as Helen's pilot site, where drilling technology and other technical solutions for geothermal sites are tested and developed.

GETTING TO KNOW DEVICES

Hello, I brush teeth here!

An electric toothbrush keeps your mouth clean.

1

What are the advantages of an electric toothbrush?

Studies show that a rechargeable electric toothbrush removes plaque much more effectively than an ordinary toothbrush. It's easy to use because it does the work for you. All you need to do is move it across your teeth. Electric toothbrushes help children clean their teeth better.



What functions does it have?

Pressure sensors on the brush tell you when you're applying too much force. A timer helps you spend enough time on each quadrant of your mouth. Motion sensors recognise your brushing motion and give you real-time feedback. There are many replacement brush heads to choose from.



More information on energy-related topics: energiatori@helen.fi

#electricitystorage Helen is investing in an electricity storage system to be built at the Lakiakangas 3 wind farm. With a capacity equal to roughly 200 electric vehicle batteries, the storage system is the second in Finland to be located at a wind farm.

How to choose... headphones?

	What?	What else?	Price?
Office headphones	Wired on-ear head- phones with a micro- phone. On-ear head- phones go over the ears but do not cover them entirely.	Noise cancellation technology reduces background noise, making it easy to focus on the conversation you are having.	These types of head- phones are good for remote work and cost about €80.
Sports headphones	Wireless in-ear head- phones that are placed in the ear canal. Can be connected to a smart- phone via Bluetooth.	A heart rate sensor in the ear gives you an accurate reading and the results can be viewed on your smart- phone.	It costs roughly €80 to take your sports experience to the next level.
Entertainment headphones	Wireless around-ear headphones that cover your ears without touching them.	Premium headphones for audiophiles deliver high-resolution sound with digital noise can- cellation.	You can find head- phones for listening to good music with excel- lent sound quality for less than €300.
Headphones for daily use	Wireless in-ear head- phones that fit the shape of your ear.	Five hours of listen- ing per charge. The rechargeable portable charging case can be used to charge the earbuds 15 times.	Combining high-qual- ity sound with the freedom of movement costs about €90.

Blowing in the wind

Wind power plays a significant role on our path to carbon neutrality. One important step in increasing wind power capacity is the Lakiakangas 3 wind farm under construction in Ostrobothnia. Helen customers will have the opportunity to buy a share of its production when it is completed. Choose Omatuuli to become a wind power producer and support Finnish renewable energy production.



#Environmental Penny Helen's Environmental Penny customers support the construction of the Lakiakangas electricity storage system. €500,000 in Environmental Penny funds is allocated to the project. More on Environmental Penny: helen.fi/ymparistopenni

LET'S JOIN FORCES

Energy smart office premises

Functionality, energy efficiency and sustainability are the key priorities in today's office work. Helen's wind power is one of the sustainable choices made by the real estate investment company Sponda.

Text: Marjukka Puolakka | Photos: Jirina Alanko



"The users of offices want to promote sustainable energy solutions"

AS PEOPLE RETURN FROM HOMES TO OFFICES

after the COVID-19 pandemic, it is time to re-evaluate working methods and the functionality of work environments. Many companies are now thinking about how to encourage employees to return to the office and how to best implement the new hybrid model of work.

"People now expect more from office premises. They want more space and inspiring premises that support well-being at work. Office premises need to appeal to employees and serve as a recruitment advantage for companies," says Pirkko Airaksinen, Head of ESG at the real estate investment company Sponda.

The sustainability of offices is also a subject of growing attention. Offices are expected to be energy efficient and the energy consumed should be low in emissions and preferably renewable. The users of offices are also interested in the climate impact of buildings.

"As a significant player in the real estate sector, we have an opportunity – and a duty – to help fight climate change. This is because buildings account for 35 per cent of all energy consumption and 30 per cent of total emissions in Finland."

"Our goal is to reduce the energy consumption of our properties by 20 per cent. Our target for energy consumption during the use of buildings is carbon neutrality by 2030."

Sponda has engaged in environmental efforts for over a decade, which has enabled the company to significantly reduce its climate emissions. This has been accomplished through energy efficiency measures as well as renewable energy projects and purchasing.

Going forward, all of the electricity used at Sponda's properties will be generated by emission-free wind power. From 2022 onwards, 50 per cent of Sponda's wind power will come from Helen's new Lakiakangas wind farm.

"Wind power is renewable and emission-free energy that improves Finland's self-sufficiency. We are pleased to work together with Helen to promote the achievement of our sustainability targets."



Sponda is a real estate investment company specialising in developing, letting and owning offices, commercial properties and shopping centres in Finland's largest cities.

The total leasable area of Sponda's investment properties is approximately one million square metres.

Environmental responsibility is an integral aspect of Sponda's operations.

8+1 things you can do

to save energy at work

Maintain a pleasant and energy efficient indoor temperature at 20-22°C. Don't cover radiators or thermostats. Don't let warm air escape. If ventilation is needed, do it quickly with a cross draught. Reduce the need for cooling by closing curtains and blinds when the weather is sunny. On hot summer days, open windows on the shady side of the premises to bring in cool air. Turn off electrical devices when they are not in use. **3** Switch off unnecessary lights. Don't forget meeting rooms and toilets. Programmable lighting control systems, ambient light sensors, timer switches and motion sensors help make lighting needsdriven. Choose LED lights.

Apply energy saving settings on your computer. Shut down computer when not in use. Turn off the display when you're not at computer. A laptop computer consumes only a fraction of the electricity used by a desktop computer. **5** Choose digital information management and avoid unnecessary printing. Use both sides of the paper when copying and printing. Use the energy saving modes on scanners and printers. Brew coffee and boil water in the break room only as needed. Set the right temperatures on refrigerators and freezers: +5 and -18 respectively. Don't forget to defrost the freezer compartment. Drink tap water. Sort waste.

Don't let water go to waste. If you notice a leaking tap or toilet fixture, notify the maintenance company immediately. Reducing the consumption of warm water leads to savings in heating energy. **8** Take the stairs instead of the lift. The incidental exercise is good for you. Consider whether you could commute by public transport instead of driving. If possible, walk or ride a bike to work. Set an example to others in energy-related matters. Give instructions, encourage good practices and make sure the instructions are followed!

"The users have a significant impact on the energy consumption of buildings. Small day-to-day actions are big for the environment."

Pirkko Airaksinen Head of ESG, Sponda Ltd

Hydrogen

Everything you ever wanted to know about hydrogen — and more.

There's a lot of talk about the hydrogen economy, but what is it? How does it support the transition to carbon neutrality? What is hydrogen and what do we do with it?

Text: Kati Kelola | Photos: Getty Images

HYDROGEN IS SOMETHING WE DON'T OFTEN THINK

about in daily life, but it is the most abundant element in the universe. It is believed that as much as 90 per cent of all atoms are hydrogen. It is the fuel of stars. Without it, we would not see constellations in the night sky. Hydrogen also makes up most of our sun. Without it, our planet would not be warm. Hydrogen and its compounds are essential for life on earth.

Most of the earth's hydrogen is bound in water: lakes, rivers, seas and sheets of ice. Hydrogen is part of perhaps the world's best-known chemical formula: H20. Water is a compound of hydrogen and oxygen.

Hydrogen is a colourless, odourless, tasteless and flammable gas that is lighter than air. It is an excellent energy carrier.

Hydrogen has the second-lowest melting point and boiling point among the elements, behind helium. The melting point of hydrogen is -259° C. To boil hydrogen, you need to achieve the frigid temperature of -253° C.

LIKE MANY THINGS IN OUR WORLD, HYDROGEN WAS discovered by accident. The 16th century Swiss alchemist, physician and astrologer Paracelsus, born Philippus Aureolus Theophrastus Bombastus von Hohenheim, noted that gas was created when metal was dissolved by acid. Paracelsus is considered to be the first person to observe the existence of hydrogen, although he did not know what it was.

The actual discovery of hydrogen is credited to the English chemist and physicist Henry Cavendish. In experiments conducted in 1766, he showed that hydrogen – or "inflammable air", as he called it – was different from other flammable gases. A few years later, Cavendish was the first to show that burning hydrogen creates water.

Hydrogen was named by the 18th century French chemist Antoine Lavoisier, who termed it hydrogène based on the Greek words for "maker of water".

Until the early 20th century, there were only a few known uses for hydrogen: as a lifting gas for airships and in limelight stage lighting in theatres.

TODAY, HYDROGEN IS USED IN A WIDE RANGE OF INDUStrial manufacturing processes. The use of hydrogen

is the highest in the chemical industry. It is used particularly to produce ammonia, which is mainly used as fertiliser.

Oil refining processes are another important

The liquid hydrogen tank at the Kennedy Space Center in Florida was recently repaired and painted. Some 1.9 million litres of liquid hydrogen were consumed on each space shuttle flight. The last time a shuttle flew was in July 2011.

LIQUIFIED HYDROC



Hydrogen is the lightest element. As a gas, it is much lighter than air, which is why there is not much of it in our atmosphere. Hydrogen is the fuel of stars. Without it, we would not see constellations in the night sky. Hydrogen also makes up most of our sun. Without it, our planet would not be warm

use for hydrogen. The outputs of these processes include diesel and petrol for road vehicles, for example. In the production of edible fats, hydrogen is used to harden unsaturated vegetable oils.

Hydrogen also plays a role in space exploration. Liquid hydrogen is rocket fuel.

Most of the hydrogen used in industry these days is made from natural gas, which generates high carbon dioxide emissions. However, in the near future, it will be possible to produce hydrogen from water using electrolysis, which generates no emissions. The process is powered by renewable energy, such as solar or wind power, or nuclear power. Hydrogen that is produced with zero emissions is called green hydrogen.

THERE ARE TREMENDOUS EXPECTATIONS FOR GREEN hydrogen.

"Hydrogen is an emission-free energy carrier. It is believed that it could play a major role on the path to carbon neutrality," says Research Manager Antti Arasto from VTT Technical Research Centre of Finland.

According to Arasto, one of the reasons behind the rise of hydrogen is that renewable energy has become competitively priced, making it possible to generate the large amounts of electricity needed for hydrogen production at a reasonable cost using renewable energy.

The biggest driver, however, is climate change and the EU's climate strategy. The emissions that cause climate warming need to be significantly reduced.

"The Commission's strategy projects that the share of hydrogen in Europe's energy mix will be 14 per cent by 2050, so its significance is very high," Arasto notes.

The current share of hydrogen of the EU's energy consumption is less than two per cent.

"There is such a crucial need for action that improving on old methods is not enough. We need to genuinely adopt new methods."

GREEN HYDROGEN CAN REDUCE CLIMATE EMISSIONS IN

industries where production is dependent on hydrogen and achieving carbon neutrality in production would otherwise be almost impossible.

"It can be a gamechanger for industry participants that have limited options available to them. Hydrogen reduction is one of the few ways of producing climate-neutral steel, for example."

In hydrogen reduction, iron oxide is reduced to iron using hydrogen instead of carbon and carbon monoxide.

Carbon neutral electrofuel produced with the help of hydrogen can replace fossil fuels in heavy transport that would otherwise be difficult to elecCarbon neutral electrofuel produced with the help of hydrogen can replace fossil fuels in heavy transport that would otherwise be difficult to electrify, such as heavy road transport, maritime transport and aviation.

trify. Arasto cites heavy road transport, maritime transport and aviation as examples.

He believes that passenger cars are likely to continue to be powered by electricity, as direct electricity use is highly energy efficient and the transition to electric cars is already under way.

In the future, green hydrogen could be used to transport and store energy with zero emissions. Hydrogen production generates a lot of heat, which could be used in the heating of buildings.

HYDROGEN PLAYS A CENTRAL ROLE IN HELEN'S FUTURE plans.

"Energy companies need to evolve because the world needs carbon neutral solutions to mitigate climate change," says Sari Mannonen, SVP, Solutions & Portfolio Development at Helen.

Hydrogen is well-aligned with this goal. Helen is exploring opportunities to operate as a producer of hydrogen and subsequent Power-to-X solutions, such as electrofuels.

"Helen has been on the leading edge of launching new solutions on the market. We have been involved in electric mobility for a long time and we have invested in service development, public charging infrastructure, solar power solutions, electricity storage systems, demand response solutions and smart property solutions."

HYDROGEN TRA

For the hydrogen economy to become a reality, we need partnerships between companies and research institutes. Helen is part of the national hydrogen cluster established by Finnish companies with the aim of accelerating the hydrogen economy.

Helen's advantage is that it already has capabilities related to the transition to a hydrogen economy," says Tuukka Hartikka, Business Lead, Renewable Hydrogen & Power-to-X at Helen.

Producing green hydrogen requires large quantities of renewable energy. Helen is currently investing heavily in wind power. The plan is to increase production many times over.

Helen also has technology and infrastructure for recovering and using the waste heat generated in hydrogen production processes. Waste heat is used for heating buildings. Helen's and Helsinki's district heating network is the largest heating network platform in Finland. There are 2,500 kilometres of district heating pipes under Helsinki.

According to Hartikka, hydrogen could also be a future solution for energy storage.

Hartikka highlights the bioenergy heating plant under construction in Vuosaari as an example of a



Hydrogen can be produced by electrolysis to separate the oxygen and hydrogen in water molecules using clean electricity. The hydrogen economy presents an opportunity for Finland to create exports and grow the national economy. At the same time, it is an opportunity to take responsibility for the future of the entire world.

new Power-to-X solution.

"It will use sustainability-certified wood chips from forest industry side streams as fuel and the waste heat from flue gases will be recovered twice. The carbon dioxide generated by combustion could be recovered and processed, by combining carbon dioxide and hydrogen, to produce plastic or transport fuel, for example. We have bio-based carbon dioxide, electricity, the ability to make use of waste heat and a lot of relevant competencies."

THE HYDROGEN ECONOMY IS A HOT TOPIC NOT ONLY

because it supports the mitigation of climate change but also because it will transform the energy markets and create new export opportunities. Finland could become an exporter of green hydrogen and, even more importantly, related technology and solutions.

"The world is changing and there is demand for these types of solutions," Antti Arasto from VTT points out.

Finland is in a good position for hydrogen production due to reasons such as the availability of cheap renewable electricity, good electricity networks and carbon dioxide from the combustion of biofuels. Arasto believes hydrogen can become a new pillar for the Finnish export industry and the Finnish welfare society.

"Finland needs to be involved in creating the market. To be successful, we need to be on the leading edge of this development."

"THE TECHNOLOGY FOR PRODUCING GREEN HYDROGEN already exists. If everything goes well, we could have several large production plants in Finland within the next 10 years," Arasto explains.

According to Arasto, getting the hydrogen economy going requires sufficiently large pilot projects, the availability of equipment at the right price and the courage to implement solutions that are still in development.

"This transformation needs to be put into action on a broad front."

In Arasto's view, the key is to have sufficient economic pressure to incentivise the change. Pursuing emission reductions needs to be more profitable than not pursuing them.

Arasto believes that the hydrogen economy presents an opportunity for Finland to create exports and grow the national economy. At the same time, it is an opportunity to take responsibility for the future of the entire world.

"As a developer and exporter of hydrogen-related solutions, Finland can punch above its weight in delivering solutions to mitigate climate change."

SOURCES: BRITANNICA.COM, NATURE.COM

Renewable hydrogen

In the future, renewable hydrogen will link different industries together when hydrogen is produced by emission-free electricity using electrolysers. Infographic: Henna Ryynänen

- Producing renewable hydrogen requires emission-free electricity. It takes about 50 kWh of electricity to make one kilogram of hydrogen.
- B. Renewable hydrogen is produced from water by electrolysis, which requires electricity. The process also generates a lot of oxygen and excess heat.
- c. Hydrogen can be used to produce various other refined products, such as fuels, chemicals and steel.
- Storing hydrogen is challenging, which is why hydrogen is often easier to store in a refined form. Hydrogen can be transported in pipelines as well as pressurised containers on lorries or ships.

Production plant - a source of CO2 Electricity storage system 1

Energy purchasing

Ammonia

Renewable energy

> District heating users

Hydrogen can be used as-is as a transport fuel, in industrial processes and even in cooking. Hydrogen can also be used to manufacture products such as steel and plastics. The excess heat generated by hydrogen production and refining can be used by district heating networks to heat homes and water.



Approximately 140 kilotonnes of hydrogen is used in Finland annually at present. This is expected to double in 10–15 years. ME & VETY

At the core of vety pies

"Vety is a classic item of local cuisine in Lappeenranta. It's South Karelian fast food at its best," says meat pie entrepreneur Antti Pyysing.

"Hi again. I'll have the original with smoked ham." Here at the Market Square in Lappeenranta, "the original" obviously refers to vety, a meat pie named after the Finnish word for hydrogen that is served with boiled egg, ham and condiments.

My grandmother Sirkka started this. The oldest kiosk serving vety meat pies is Kahvikioski Sirkka Peitsoma, which has been in business for 54 years. We're in our third generation.

I started by cleaning tables here when I was six years old, so I've spent a large chunk of my life here. We're only closed for Christmas and Midsummer.

Before vety, there was atomi. Back in the 1950s, an entrepreneur at Lappeenranta's Market Square made meat pies with egg for their children. They began to sell them at the kiosk and named the dish atomipommi (atomic bomb).

A customer asked for one with ham as an additional ingredient. So what should that be called? They decided to call it vetypommi (hydrogen bomb).

This classic dish has also seen its share of product development. We now have vegetarian and salmon versions as well as gluten-free vety on our menu. The basic concept has remained unchanged from Sirkka's days. The meat pies still come from the same bakery and the annual production volume exceeds one million pies.

Vetys have been sold for 65 years and they still help seven market square kiosks stay in business. Our Helsinki-based customers sometimes ask me when will I open up shop in the capital. Maybe some day I will."



9 TRICKY QUESTION

Did you know this about hydrogen?

Find out how familiar you are with the most abundant element in the universe.

1

On average, what percentage of an organism's weight is hydrogen?

- **A.** 5%
- **B.** 10%
- **C.** 20%

4

How much lighter than air is hydrogen?A. Two timesB. Seven timesC. 14 times



Which of the following is an isotope of hydrogen with 1 proton, 0 neutrons and 1 electron? A. Protium B. Deuterium

C. Tritium

2

How much is the demand for hydrogen expected to grow in the next 50 years?

A. Twofold**B.** Fourfold

C. Sevenfold

5

When was the first flight by Ferdinand von Zeppelin's airship with hydrogen as the lifting gas? A. 1900 B. 1910 C. 1920

8

What percentage of vehicles in Finland are expected to be powered by hydrogen in the 2040s? A. 5%

- **B.** 10%
- **C.** 20%

3

What is the estimated size of the global green hydrogen market in the 2050s? A. €1 trillion B. €10 trillion

C. €100 trillion

6

What percentage does hydrogen represent of the atoms on Jupiter?

- **A.** 70%
- **B.** 80%
- **C.** 90%

9

What is the name of Finland's first hydrogen car? A. Hydro Car B. Fantasia C. Pocket Car

Hisma Desert is one of the destinations at the Neom smart city to be built in Saudi Arabia.

Sere Z



A city in the desert

Saudi Arabia will build the world's largest green hydrogen production plant in the desert.

Saudi Arabia will build a €5 billion production plant that will produce ammonia made with green hydrogen. The energy for the plant will be derived from solar and wind power. The plant is intended to produce 650 tonnes of green hydrogen using water electrolysis, which involves splitting water molecules into oxygen and hydrogen with the help of electricity. The annual target for the plant is to produce 1.2 million tonnes of ammonia made with green hydrogen for the global market.

The production plant is part of Neom, a futuristic megacity located in northwestern Saudi Arabia that will cost over €500 billion. The first section of Neom is scheduled to be completed in 2025. Neom will feature smart technology and it will also serve as a tourist destination. Its total area will be 26.500 km². This makes over 9,000 km² larger than Inari, which is the largest municipality in Finland.



2021





CLEAN DISTRICT HEATING

Making Helsinki's heating carbon neutral

Helen is continuously developing new ways to produce clean and emission-free district heating. For people in Helsinki, renewable district heating is an easy way to take climate action. Text: Marjukka Puolakka | Photo: Getty Images



ABOUT 95 PER CENT OF HELSINKI IS heated with district heating today. Some 600,000 Helsinkians live in district heated apartment buildings. District heat can be produced from many different energy sources and with various technologies. In the future, it will be a completely carbon neutral

form of heating. "The Hanasaari power plant will be closed in 2023, halving the use of coal. We are preparing to discontinue the use of coal in Salmisaari even before 2029. In 2030, our energy production will be completely carbon neutral," says Anu-Elina Hintsa, Senior Vice President of Sales and Customer Service at Helen.

Helsinki's heating demand is equal to the combined demand of Tampere, Turku and Espoo, which means that Helen's solutions are significant on the national scale.

Customers already have the option of choosing carbon neutral heating in the form of Renewable District Heating. It is produced from the waste heat contained in wastewater treated at the Viikinmäki treatment plant. Waste heat is also recovered from data centres, shopping centres, offices, residential buildings and industrial processes.

The district heating and cooling network is a good platform for all new technology solutions. In addition to waste heat, coal is replaced with bio heat, energy storage systems, solar power and wind power. Helen is involved in investigating the recovery of



Facts

About 95 per cent of Helsinki is heated with district heating.

Carbon neutral renewable district heating is also available as an option.

Helen already uses waste heat recovered from treated wastewater, data centres, shopping centres, offices, residential buildings and industrial processes in its district heating and cooling network.

The district heating and cooling network is an excellent platform for all new technology solutions, such as geothermal heat and small-scale nuclear reactors.

heat from seawater, geothermal energy and the use of hydrogen and small-scale nuclear reactors.

Helen works together with its customers to continuously develop various technical solutions related to clean district heating.

"Heat pumps will be installed at the existing power plant in Vuosaari and the new bioenergy heating plant to take full advantage of the waste heat generated in the production process."

Paulig's coffee roastery in

Vuosaari has a heat recovery system that recycles waste heat that exceeds the roastery's own needs for use in Helen's district heating network.

A Lidl supermarket in Kallio

"In 2030, our energy production will be completely carbon neutral."

Anu-Elina Hintsa

Senior Vice President of Sales and Customer Service, Helen Ltd has a building-specific cooling system for cooling the premises and generating renewable district heating for the district heating network.

Excess heat from various heat sources at a residential building on Rullakkokatu in the new housing district of Postipuisto is processed for use as district heating in Helen's district heating network.

"District heating is a smart way to make energy-efficient use of various heat sources." 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 January 2022 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.



One lucky survey respondent will win an electric toothbrush.

Oral-B GENIUS X

Oral-B GENIUS X uses artificial intelligence to monitor your brushing. Link it with the Oral-B app to get feedback to help you achieve the best results. 7 SOURCES OF ENERGY

Konsta Hietanen



When you have a family of seven and you work in the entertainment industry, getting sick is always a concern. I try to keep colds away by drinking berry and protein smoothies every day. I also keep ginger shots in the fridge and drink a few of them each day.



My running workouts are short and fast. I go for high-intensity runs of five kilometres at most, followed by a quick circuit workout. It makes me feel good and gives me energy!

Family life

When I get home after the work, the youngest of my children are waiting for daddy. That welcome brings meaning to my life. After four boys, we had a girl. She's still at home, so when I have a day off, I get energy from playing with her. Our little princess is something else!



My wife and I like to spend quality time together in the evenings. We usually fix up a nice meal on those occasions. Chicken wings are often on the menu.



Music

I write songs, so I listen to music whenever I get the chance. When I'm driving or out for a run, I listen to all kinds of music from Von Hertzen Brothers to Mozart.

<mark>6</mark> Football

I played football professionally for several years. These days, I often go for a kickabout with my kids. It makes me realise I've gotten slower, but it's always fun to play.



Facts

sional.

Konsta Hietanen is a musician,

actor and former

This year. Konsta

has released the

songs Uskollinen

vstävä and Hullu.

He plays the role

of police officer

Miki Kajander in the TV series

Salatut elämät.

football career, Konsta played

for FC Lahti and

During his

MYPA.

football profes-

I drive from Lahti to Helsinki to shoot the TV show Salatut elämät about three days a week on average. When the days are long, I sometimes take a power nap in the changing room.

PHOTOS: HANNES PAANANEN AND GETTY IMAGES

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