

TRENDS SHAKER

Newsletter #56

The monthly newsletter for socio-cultural trends

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IN THE SPOTLIGHT

Full steam ahead for ocean protection!

Sources:

www.futura-sciences.com

www.sciencesetavenir.fr

www.lesechos.fr

www.ouest-france.fr

www.environnement-magazine.fr

www.laprovence-com

After fifteen years of negotiations, **UN member states reached a historic agreement to protect international waters**. Also known as "high seas" (the legal term), **international waters cover all marine areas beyond 200 nautical miles (370 kilometres) from the shore**. They account for **half of the total surface area of the planet**, are not owned by any nation and were, until now, a free zone in which fishing, overfishing and the release of harmful substances were not banned. **This agreement makes the high seas a "common heritage of mankind" with its signatories pledging to create marine protected areas to protect 30% of international waters by 2030** (today, only 1% of high seas are protected). The agreement also covers how to fairly share marine genetic resources collected in the high seas to ensure that developing countries, who do not have the means to finance expensive expeditions, are not excluded from research programmes. .

And as nations mobilise to protect the oceans, entrepreneurs are taking inspiration from the high seas. Among the latest innovations to have been launched is **Algae to House** which turns **Sargasse algae, an invasive algae threatening our coastlines, into lightweight yet strong bricks for the building trade**. Another is **Finsulate's antifouling panels, developed to protect ship hulls from accumulation of marine organisms and, in so doing, reduce fuel consumption**. Unlike the toxic paints that are commonly used, Finsulate panels respect biodiversity. **Inspired by sea urchin spines**, they are made up of millions of microfibrils just a few millimetres in size which prevent, mechanically rather than chemically, marine organisms from attaching to the hull.

Because they absorb CO₂ and create over half the oxygen we breathe, oceans and their biodiversity must be protected. To do this, it is vital to raise public awareness. With this in mind, the **École de l'exploration** (school of exploration) **organises a two-day training session once every two months to raise society's awareness of ocean protection**. A community of citizens, scientists, entrepreneurs and elected representatives conducts research and takes action to combat environmental problems on a local scale and encourage good practices. To address environmental and marine issues and raise awareness among local residents, **Nice Côte d'Azur metropolitan area joined forces with the Climate School to train its 12,000 agents in environmental transition and biodiversity protection issues**. Nice will also host the **UN Ocean Conference in 2025**. Organised by France and Costa Rica, the Nice summit will be attended by several dozen heads of state and thousands of researchers with the aim of **reaching a global agreement on ocean protection**.



Mud houses make a comeback in Hungary

Long derided, traditional mud houses are seeing a revival in Hungary. **Bricks made of straw and clay can be used to build well-insulated homes that stay warm in winter and cool in summer.** These strong and sustainable mud houses have the added **benefits of regulating humidity efficiently, improving indoor air quality and being fire resistant.** The architect **Adam Bihari, a specialist in earth-built houses, runs courses to teach individuals how to renovate their homes using clay bricks.** The method is open to everyone - it takes just one minute to make a brick by hand - and the material is readily available. **It has the added benefit of being inexpensive and avoiding long-distance transport of building materials.**

Source

www.bfmtv.com

Rwanda's capital city has overcome its sad past to become an environmental game changer **Voted Africa's cleanest city by UN-Habitat, Kigali (nicknamed "Little Switzerland") runs a mandatory national clean-up day every month, involving local residents aged 18 to 65 who come together to pick up litter and plant trees.** The first African country to submit a climate action plan in line with the Paris Agreement, Rwanda launched a **plan to build a sustainable green neighbourhood on the outskirts of Kigali.** The ambitious five-million-dollar **«Green City Kigali»**, project will cover 620 hectares. **Powered by solar energy and biogas, the model city will have a system to collect waste and rain water, will develop fully sustainable mobility solutions, and will protect urban woodland.** It will also protect the existing population because **no relocation is planned.**

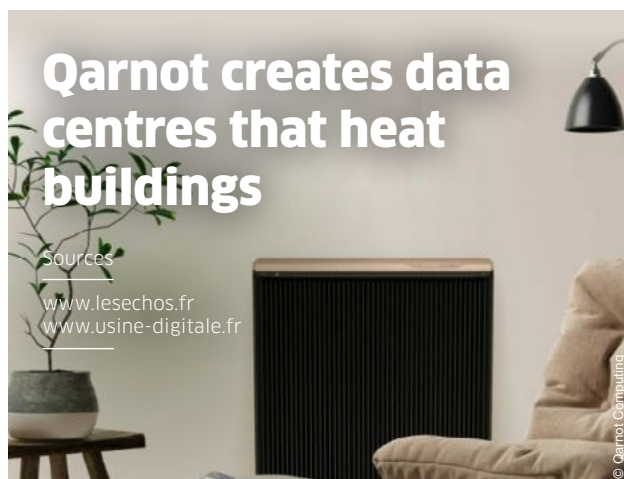


Kigali's green city model

Source

<https://leseclaireurs.canalplus.com>

TECH & INNOVATION: ENERGY



Qarnot creates data centres that heat buildings

Sources

www.lesechos.fr
www.usine-digitale.fr

As an expert in IT-generated heat, **Qarnot has created data centres that heat buildings.** These 4 to 8-kW data centres contain between 12 and 24 servers with, between them, two wide-diameter copper pipes (cold water flows in through one, to come back out the other as hot water). **This patented system recovers 95% of the heat emitted by the servers (at about 60 °C) and reinjects it into the building's heating system.** The company **has fitted about 150 of these digital boilers** and won over such big names as Natixis, Société Générale and a few 3D animation studios, which use a lot of processing power.

It has also **raised 35 million euros to industrialise its production of these devices, which emit 80% less carbon than traditional data centres.**

Japan's snowiest city, Aomori receives between 10 and 15 metres of snow a year. And it's a huge problem for residents and local authorities alike. **In 2022, 46 million dollars were spent on removing snow from roads, pavements and public buildings.**

To solve the problem, a team of **IT startup Forte and the University of Electro-Communications in Tokyo** are testing interesting technology that could **transform this abundant resource into green electricity.**

In a disused swimming pool filled with snow, the researchers have installed heat tubes to supply cold air (from the stored snow) and hot air (from outside) to the coolant liquid inside the turbine. The temperature difference gives rise to a convection current which rotates the turbine, generating electricity. **The authors claim their snow-based power generation method could reach the same efficiency as that of a solar energy plant.**



Using roads' solar energy is not a new idea. But until now, no attempt has produced a satisfactory result. To explore the idea further, **France's centre for research and expertise in risks, environment, mobility and planning (Cerema) launched its Dromotherm research project.** With a budget of 400,000 euros mainly financed by the Auvergne-Rhône-Alpes region, the project has **developed a road surface that can heat buildings located on the side of the road. The road surface is actually made up of three layers, the middle of which allows water to circulate.** A heat exchange system enables the water heated during the summer to be stored in a special area under the building. It stays there all summer at a temperature of about 40 degrees. In the winter, it is pumped into the building's heating system by a geothermal heat pump. **"To heat a 1,000-square-metre building, you need about 300 square metres of Dromotherm road, which amounts to approximately the length of road that adjoins the building,"**>> says Benoît Stutz, project coordinator.

Innovation upon innovation for French start-ups

Source
www.latribune.fr

In every region of France, a host of start-ups are innovating in the energy sector.



In **Auvergne-Rhône Alpes**, for example, **Lancey Energy Storage** developed a **smart radiator fitted with a battery that stores energy from solar panels during off-peak times and recovers it during peak consumption periods.**

In **Centre-Val de Loire**, **Fractal Energy** invented a **box that uses the same principle to store and recover electricity** electricity and help households reduce their energy bills.

In **Bourgogne-Franche-Comté**, **H2SYS** provides hospitals and fire stations with **hydrogen-powered generators.**

In **Île-de-France**, **WIND my ROOF** developed **horizontal wind turbines to use on building rooftops to produce electricity.**

In **Nouvelle Aquitaine**, **Dioxycle** captures **CO₂ emitted by heavy industry (petrochemicals, cement works, etc.) and uses an electrolyser to transform it into fossil-free resources that the same industries can reuse.**

In **Occitanie**, **Water Horizon** developed a **thermal battery that recovers waste heat from industry, stores it and then distributes it as clean energy.**

"Travel therapy: a new trend in tourism?"

Sources

<https://www.ifop.com>
www.ifop.com/wp-content

© pixels-to-learn.fr



Today, people no longer think of travel simply as a break from the everyday, but as **an experience that can have a lasting impact on their lives.**

According to a study by French market research firm ifop for the flight comparator Kayak, almost a quarter of French people have already taken this new type of trip, either to focus on themselves or to discover other cultures.



people under 35

Travel therapy is not a marginal experience and is of **particular interest to young people aged under 35.**



1 out of 2

One in every two young people surveyed is considering travel therapy in the future, and for the majority this would be a trip they would take alone.



The most popular destinations are those considered to be "spiritual":

India, Bali, Thailand, Mexico, Peru, Chile, Santiago de Compostela, Mecca, etc.),



followed by "secluded destinations":

Scotland, Ireland, New Zealand, Larzac, Auvergne



and "wide open spaces"

United States, Canada, Iceland



The study indicates that this type of trip requires a considerable budget - over €1,500 for the ideal duration of a month or more.

CIRCULAR ECONOMY

WeeeCycling recycles strategic metals

Source
www.lesechos.fr

© Unsplash - radeleon

Winner of the French government's "Critical Metals" call for projects - part of its France 2030 plan -, the Normandy-based company WeeeCycling recycles waste (aircraft components, jewellery, electronic cards, etc.) containing strategic metals (gold, copper, silver, lithium, etc.). Its 15,000 square metre factory is the only plant in the world to refine industrial quality materials from waste without using extracted ore, as is generally the case. While its metal production process has a similar cost to that of mining the metal, WeeeCycling has a metal extraction rate of at least 98% and a **carbon footprint that is at least 90% lower than mining.** WeeeCycling has announced a **€20 million euro investment plan over three years in order to expand its plant and increase its production capacity.**

How can data help the circular economy?

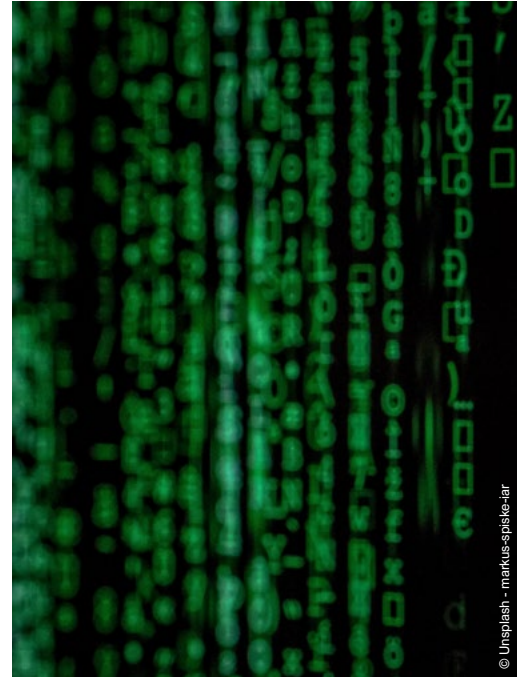
Source

www.lesechos.fr

Although the circular economy accounts for just 7.2% of the global economy, it's all systems go to boost its acceleration. It has to be said that today, **more and more companies see the circular economy as a springboard for virtuous growth**, and that **more and more consumers are calling for responsible citizenship**. **Technology** is now able to provide its share of solutions, **by improving raw material traceability, product life cycle optimisation, and waste reduction.**

According to a study by the World Economic Forum, digital technology like blockchain and the Internet of Things could deliver a 20% reduction in raw material loss by 2030.

However, for data to work as a valuable driver of the circular economy, it must focus on **digital sobriety and frugal innovation.**



© Unsplash - markus-spiske-18r

HR x YOUNG PEOPLE

Environmental transition: what jobs for tomorrow?

Source

<https://vert.eco>



© Unsplash - leandre-chastagner

According to The Shift Project's PTEF plan to transform the French economy, 1.1 million jobs could be created by 2050 if France makes greater commitments to decarbonise its economy.

That said, **the sectors that will participate in this environmental transition are already looking to recruit.**

- As the **agroecology sector grows and farmers retires** - France has lost 100,000 farmers in ten years -, **500,000 jobs are set to be created in this sector by 2050.**
- In addition, the **bicycle industry is likely to create 200,000 jobs.**
- The **energy renovation sector is set to create 100,000.**

Tomorrow's world will also need:

- **engineers and technicians to deploy renewable energy solutions,**
- **teachers to train young people in environmental issues,**
- **sociologists and economists to analyse the transition,**
- **and journalists and artists to report on the transition and invent new stories.**

Employees want to work for companies with a high positive impact

Sources

www.paulpolman.com
www.paulpolman.com/wp-content

Although many employees believe that their company is taking initiatives to address today's key societal and environmental challenges, between 62 and 68% say it's still not enough. These are the findings of a study of 4,000 British and American employees, conducted by Paul Polman. These employees believe that **businesses lack ambition, do not communicate sufficiently on their environmental actions and on their initiatives to combat inequality, and do not sufficiently involve their employees. Over half of them would like to play a bigger role in their company's positive impact** (53% in the United Kingdom, 60% in the USA). **This figure is even higher for Millennials and Gen Z** (64% in the UK, 66% in the United States). **The study also indicates that almost half of the employees surveyed would consider resigning if their company's values don't align with their own.** Leading Paul Polman to say **"forget quiet quitting, we are entering an era of conscious quitting"**.

START-UP OF THE MONTH

Sources:
www.rudebaguette.com
www.usine-digitale.fr

Pasqal the French star of quantum computing

In the race for a quantum computer, France has a number of potential champions, the most promising of which is probably Pasqal. **Co-founded in 2019 by the recent Nobel Prize in Physics laureate Alain Aspect, Pasqal builds quantum computers from neutral atoms, differentiating it from other quantum players, like IBM and IQM. In 2024, the start-up will launch a 1,000-qubit quantum computer (its computers currently operate on between 100 and 200 qubits),** offering its processing power to customers in key sectors such as energy, chemistry, automotive, health, business technology and finance. To meet these objectives, **the start-up announced in January 2023 that it had raised a further 100 million euros.** Led by a new investor, Temasek, this round of financing includes the participation of the European Innovation Council Fund, Wa'ed Ventures and Bpifrance's Large Venture fund, as well as Pasqal's existing investors.



Nobel Prize in Physics laureate Alain Aspect

TRENDS SHAKER

#3

Live

LISTEN, LISTEN AGAIN,
AND SHARE THE EPISODE!



"Gender diversity in tech and science: a challenge we still haven't addressed!"

In France, girls currently make up over 50% of pupils taking Biology in their final year of high school, yet only 1.5% of schoolgirls go on to do an engineering course. This figure, which is alarming to say the least, spurred Trends Shaker Live to try to understand why there are so few women in STEM (science, technology, engineering and mathematics) roles, and to offer some solutions for achieving real parity.

One of the main reasons why so few schoolgirls consider a career in science is that women scientists have long been (and continue to be) invisible. They are also underrepresented in cinema, on television, and in science magazines. To make women in science more visible, we have to move away from celebrity stardom and "broaden the idea of a role model. That means we need to highlight people working at all levels - from superheroes to technicians," says Claudine Schmuck, founder of Global Contact, a consultancy firm specialising in innovation and gender diversity. **At a time when 40% of engineering students say they were put off studying for science degrees (either by their teachers or their families), the fight against stereotypes is still very much a reality.** Encouragement is particularly important as a number of sectors are suffering a severe lack of women.

The result is that **companies struggle to recruit women to STEM positions without the help of deliberate policies,** such as the Fifty-Fifty programme introduced by ENGIE in 2019. To address the gender diversity challenge, we must communicate with girls from a very young age and encourage them to consider a career in science. With this in mind, ENGIE created a community of 400 ambassadors who go into schools (from early primary right through to the end of secondary) and take part in job fairs. "This work is very much focused on girls so that we will be able to recruit more women in the future," says Cécile Prévieu, ENGIE's Executive VP in charge of Networks activities. Although we urgently need to encourage women to embark on STEM-based careers, there is real hope. **"In this current generation, many girls are interested in environmental issues and are keen to take action. Their commitment can break down the barriers and encourage them to choose engineering careers,** says Muriel Valin. What's more, "things are in the process of changing when it comes to energy and sustainability - more and more women are working in these fields," says Claudine Schmuck.



DID YOU KNOW?



Copenhagen's litter bins are angled so that cyclists can throw their rubbish in as they cycle along!

www.linkedin.com

In the capital of Denmark, everything is designed with cyclists in mind. Not surprisingly when you consider that **Copenhagen has 382 km of cycle paths and more bicycles than inhabitants.** The city's angled litter bins encourage cyclists to discard their waste responsibly and adopt a green attitude.



Tesla has built a tiny self-powered house

www.neozone.org

The electric car manufacturer has launched the **Tesla Tiny House, a 35-square-metre prefab house that is completely energy self-sufficient.** Powered by solar panels and a storage battery that takes over when the sun goes down, the Tiny House can be set up on any type of terrain in less than an hour and costs just 10,000 euros.



Black Elephant social network creates a unique platform for dialogue

www.lepoint.fr
<https://usbeketrica.com>

Pitched as an "experimental" social network, Black Elephant organises virtual and in-person encounters between people from all over the world. **With one simple goal: to encourage people to talk about themselves and share their vulnerabilities, focusing on what they feel rather than what they think.** Contrary to traditional social media platforms where we only show a polished version of ourselves.