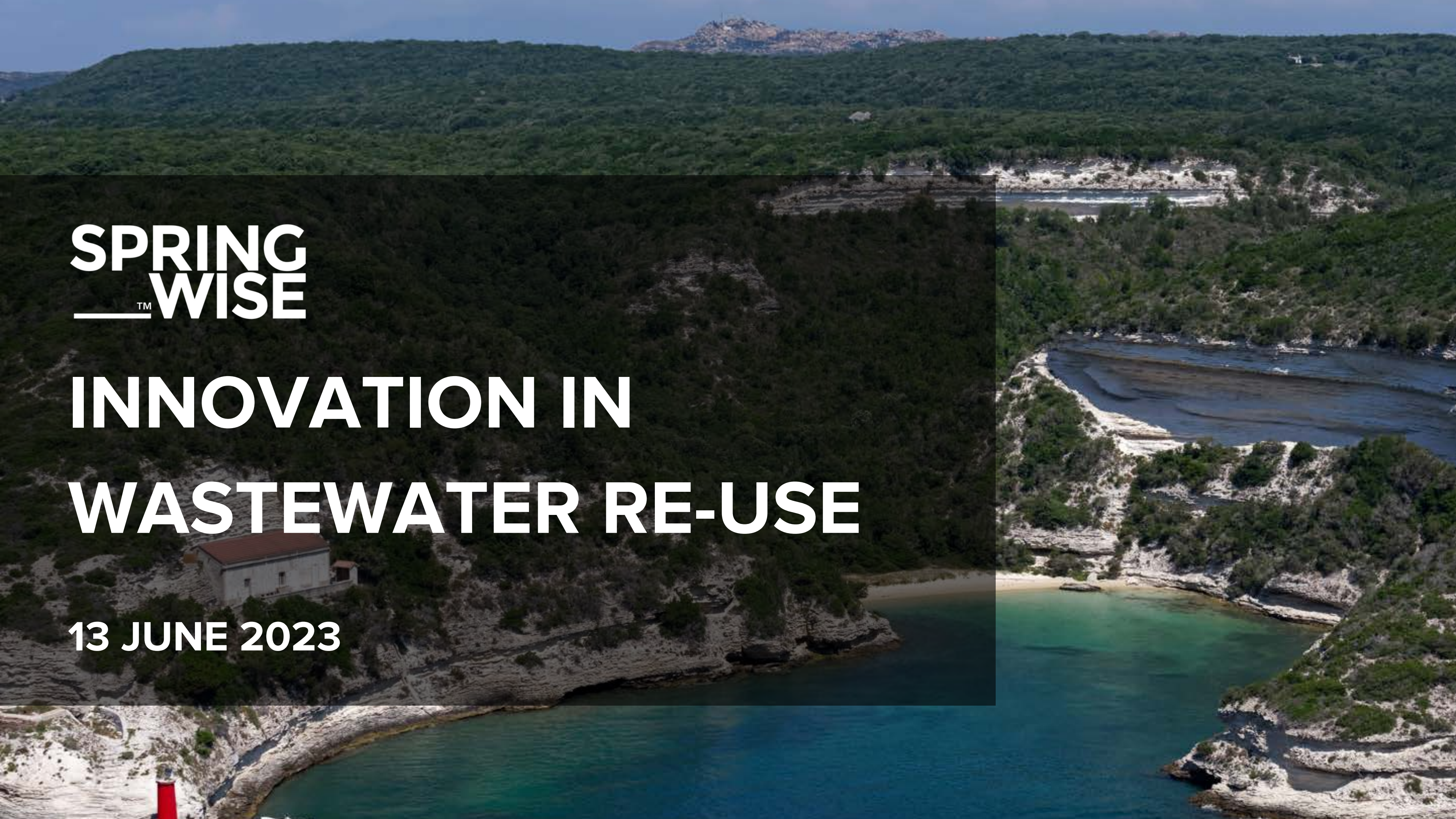


An aerial photograph of a coastal landscape. In the foreground, a small, light-colored building with a red roof sits on a rocky shore. To the left, a red lighthouse is partially visible. A river flows through the middle ground, surrounded by dense green forest. In the background, a large, rocky mountain rises above the trees under a clear blue sky.

**SPRING
WISE**TM

INNOVATION IN WASTEWATER RE-USE

13 JUNE 2023

INTRODUCTION



Bonifacio Sep 2020



ChangeNOW May 2023

Springwise is the leading, global innovation publisher for positive and sustainable change

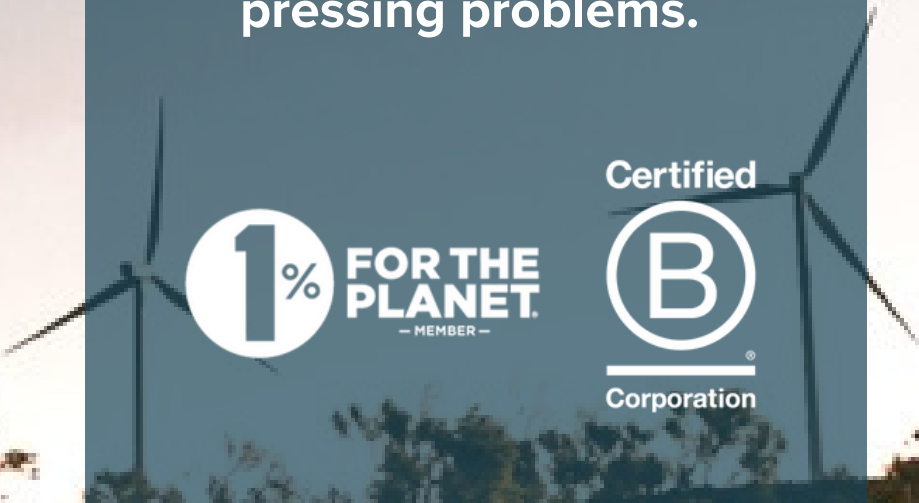
EXPERIENCED

20 years' experience uncovering and curating the most innovative ideas on the planet. A library of over 12,000 global innovations



MISSION DRIVEN

We exist to give oxygen to the worlds leading innovators, developing solutions to Earth's most pressing problems.



TRUSTED

Trusted by thousands of thought-leaders, entrepreneurs, investors and educators



CONNECTED

Proud to partner with some of the world's leading change-makers



OBJECTIVES

- ✓ Illustrate the critical role of innovation
- ✓ Trigger some creative thinking
- ✓ Demonstrate the need for local and community-led innovation

SPRINGWISE AND WATER



INNOVATION THEMES

INDUSTRIAL
SOLUTIONS

HOME
SOLUTIONS

WATER IN
AGRICULTURE

ALTERNATIVE WATER
SOURCES

BOTTOM-UP
CHANGE

THINKING
OUTSIDE THE BOX

INDUSTRIAL SOLUTIONS



IMPROVING THE ENERGY EFFICIENCY OF INDUSTRIAL WASTEWATER TREATMENT

The system is 50 per cent more efficient than existing technologies and recovers 75 to 85 per cent of water



MODULAR WASTEWATER TREATMENT TECHNOLOGY DRIVEN BY SUNLIGHT AND WATER MOTION

Nanomaterials are being used to break down organic pollutants in wastewater safely, using energy derived from movement of the water



A MEMBRANE THAT GENERATES ELECTRICITY AND CLEANS WASTEWATER

Rather than using substantial power to purify water, a new system generates additional energy during the purification process



MODULAR SEWAGE TREATMENT PLANT FITS INSIDE A TRAILER

The solution cleans water sufficiently for reuse in gardening, flushing, and outdoor cleaning

HOME SOLUTIONS



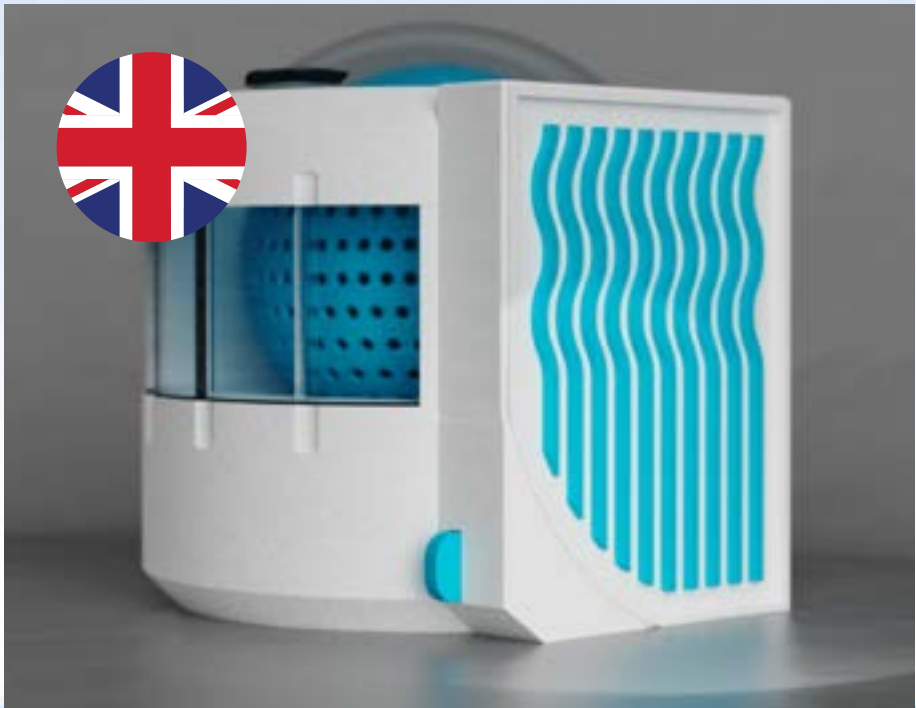
DUTCH SYSTEM RECYCLES 85 PER CENT OF HOUSEHOLD WATER

The low-energy, filterless system collects water from the shower, bath and washing machine and removes dirt and debris, reducing water waste



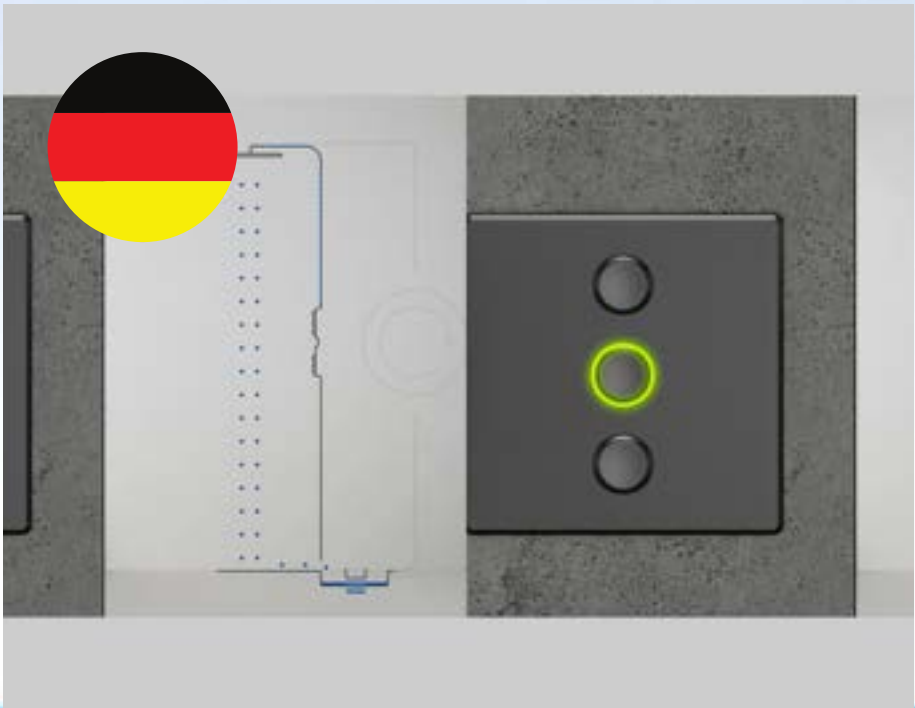
A NEW SHOWER SYSTEM COMBATS CLIMATE CHANGE AND WATER SCARCITY

The new technology reduces water use by 85 per cent and energy use by 75 per cent compared to a standard shower



WASHING CLOTHES WITH SHOWER WATER

A new device that washes clothes with recycled shower water provides a cost-effective alternative to a washing machine



A RECYCLING SHOWER THAT SAVES WATER

The device reduces water usage by 75 per cent by cleaning and reheating the water before sending it back through the pipes

WATER IN AGRICULTURE



changeNOW 2023 Featured So

A NATURAL SOLUTION MAKING PLANTS MORE RESILIENT TO DROUGHT

The system helps reduce water needed in irrigation while improving yields during dry periods



GROWING CROPS IN SALTWATER

A startup has developed systems and tools that allow farmers to grow salt-tolerant crops in artificial salt marshes



SOLAR-POWERED WATER FARM OPENS IN KENYA

An NGO has developed a solar power desalination plant that can provide affordable drinking water



A DEVICE WATERS PLANTS AT THEIR ROOTS TO SAVE WATER

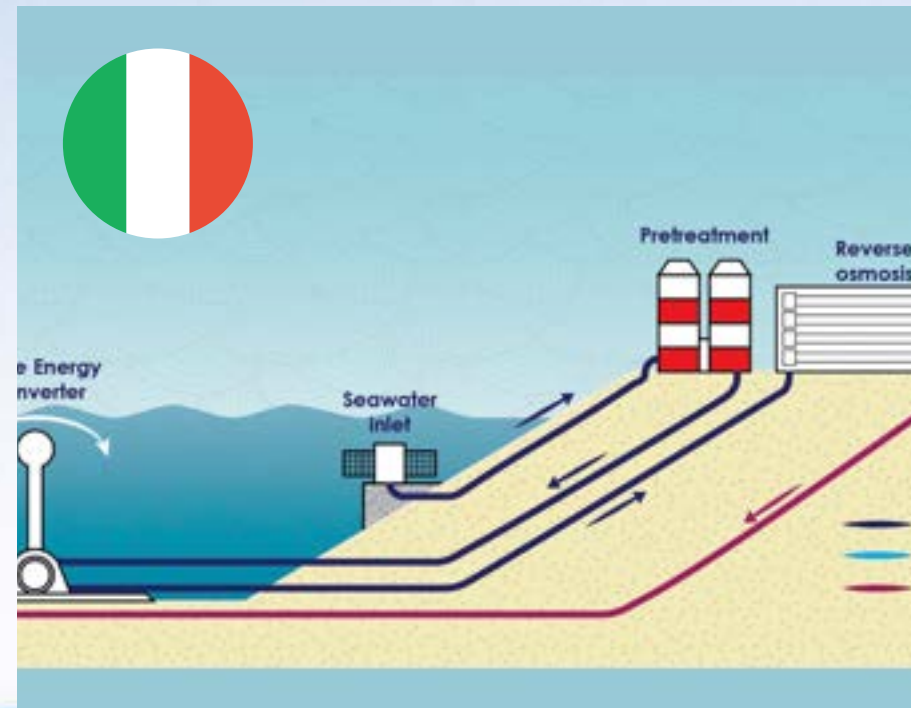
The novel system reduces water waste by up to 50 per cent

ALTERNATIVE SOURCES OF WATER



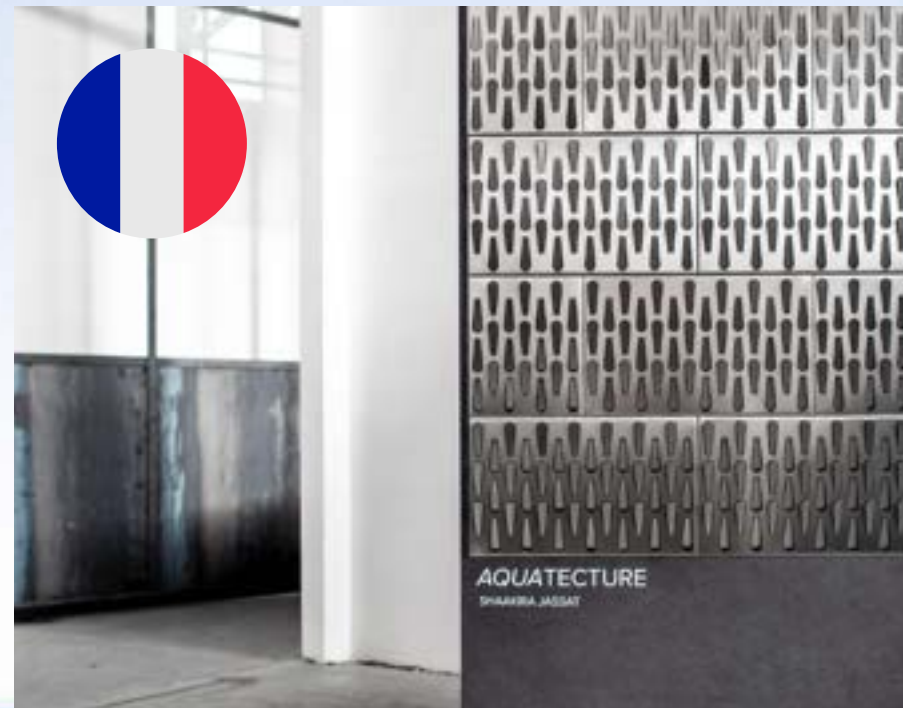
PORTABLE DEVICE PULLS WATER FROM THE AIR

A portable atmospheric water generator has been designed specifically for use in vehicles, allowing those on the go to access drinking water



A NEW DESALINATION METHOD USES WAVE-POWERED TECHNOLOGY

The new method addresses the reliance of desalination systems on the main electricity grid



WATER PANELS COULD HELP PREVENT URBAN DROUGHTS

An innovative panel has been designed to fit discreetly onto the walls of a building, collecting rainwater and pumping it into the water system



INFLATABLE WATER TANKS FOR RURAL AREAS MADE FROM CONCRETE CANVAS

A new type of water tank is easy to deploy and has myriad uses for rural communities

BOTTOM-UP CHANGE



DRINKING FOUNTAIN MAP OF VENICE ENCOURAGES SUSTAINABLE TOURISM

The community hopes to combat plastic waste by making it easy to refill bottles



MAKING LAUNDRY MORE SUSTAINABLE

A sustainable laundry system uses space age technology, AI, electric vehicles, and reclaimed water to make commercial washing greener



AN ECO-FRIENDLY HELMET MADE FROM WASTE SCALLOP SHELLS

The helmets cut down on plastic while tackling a major source of marine waste



MOBILE FILTRATION SYSTEM PROVIDES AFFORDABLE CLEAN WATER

Macadamia shells and a nano-fibre membrane mechanically remove E-coli and other pathogens

THINKING OUTSIDE THE BOX



MINI DATA CENTRES HEAT LOCAL SWIMMING POOLS FOR FREE

A data company has found a way to keep public swimming pools open by recycling heat from its servers



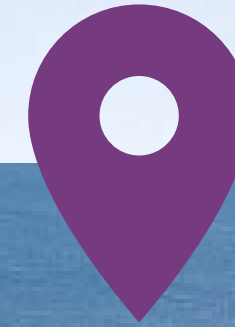
RECOVERING THE ENERGY FROM A WARM SHOWER

The technology recovers valuable heat energy and provides a more sustainable shower experience

CONCLUSION

- ✓ Industrial and chemical solutions to accelerate **the feasibility of the reuse of treated wastewater are in the making**
- ✓ Whilst we wait for large scale solutions, **grassroot innovation is not stopping**
- ✓ **Solutions exist to tackle the problem bottom up:** from homes, hotels, swimming pools, farms
- ✓ There are **other ways to source clean water:** thin air, sea
- ✓ Tackling **behavioural shifts** is as important as the technical solution
- ✓ Most **change will come from communities and local initiatives**
- ✓ **Thinking outside of the box creates surprisingly positive outcomes** and a cycle of positive change

ENABLING INNOVATION



THANK YOU

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