

REVOLVE

QUARTERLY INSIGHTS INTO A CHANGING WORLD

N°50 | Winter 2023/24



Ocean Literacy

Our relationship with
the ocean. [p.18](#)

High Seas Treaty [p.10](#) Warming Sea [p.35](#) Building Renovation [p.52](#)
Nature-Based Solutions [p.60](#) Cycling Future [p.68](#) Office Circularity [p.76](#)

INDIA COUNTRY REPORT 2023

REVOLVE

www.revolve.media

SUSTAINABLE INDIA

Finding Solutions to the Climate Crisis

2023 has been a year of records, although few warrant celebration. The year that is ending now has been the warmest on record, according to the data shared by the European Copernicus Climate Change Service (C3S). The global mean temperature for 2023 has been the highest on record, 1.46°C above the 1850-1900 pre-industrial average.

However, not everything is so grim on the horizon. 2023 can also be remembered as the year in which Portugal set a new renewable energy record as production outstrips demand. The whole country ran six days in a row on energy produced from wind, hydropower, and the sun.

At REVOLVE, we want to highlight the solutions to build resilience to climate change challenges. That is what we do with our work, spotlighting the problems but always through constructive lenses.

In this issue, we shed light on the High Seas Treaty, a legally binding document outlining regulations for the conservation and sustainable management of marine biodiversity beyond national jurisdiction. The High Seas, also known as international waters, account for nearly 2/3 of the world's oceans and are home to 95% of marine life, including phytoplankton. But it was legally unprotected until now.

We continued our exploration into the seas interviewing Ambassador Peter Thomson, UN Secretary-General's Special Envoy for the Ocean. In the lead-up to the first European Ocean Days event in March 2024, we learn more about ocean literacy and the pivotal role it has taken in furthering the sustainable management of the ocean and ensuring the implementation of treaties such as the High Seas.

In our VIEWS section, we keep exploring the challenges of our seas and the stories behind them with a photo essay from RUIDO – a Spanish cooperative of very talented photojournalists.

But that is not all because 2023 is also a record year for REVOLVE marking our 50th issue! We are happy to celebrate it with you by providing new stories and insights into this changing world.

Send us your stories, ideas for the future, and other comments at editors@revolve.media.

Thanks for revolving with us!

INDESAL

ENERGY-EFFICIENT & CIRCULAR DESALINATION

LIFE INDESAL tackles the challenge of supplying safe freshwater from seawater, contributing to fight climate change and to the shift to the circular economy. The project aims to develop and demonstrate a novel integrated and circular seawater desalination solution with a low carbon footprint that produces multi-purpose desalinated water, renewable energy and resources simultaneously.

OBJECTIVES



Obtaining high quality freshwater via desalination



Generating renewable energy from brines



Recovering and valorising resources from brines



Decreasing energy requirements of the desalination process



Designing and demonstrating an innovative integrated and circular desalination scheme



Enabling the utilisation of LIFE INDESAL results to maximise long-term research impacts



FOLLOW OUR PROJECT
[INDESAL.REVOLVE.MEDIA](https://www.indesal.revolve.media)



Co-funded by
the European Union

Co-funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA. Neither the European Union nor CINEA can be held responsible for them.



10



18



35



52



68

Water

N°50 | Winter 2023/24

10 High Seas Treaty
All you need to know about our ocean and the High Seas Treaty.

18 Ocean Literacy
The UN Special Envoy for the Ocean, Ambassador Peter Thomson, discusses actions to save the Ocean.

26 Preserving Water
On the scarcity of water and the need to protect it.

35 Warming Sea
The impacts of rising sea levels across the Mediterranean.

52 Building Renovation
How to democratize the Renovation Wave through local energy cooperatives?

60 Nature-Based Solutions
Building resilience with nature-based solutions in Finland.

68 Cycling Future
How the European Commission plans on promoting cycling for a better future.

76 Office Circularity
REVOLVE is charting a new sustainable course.



Paloma Aba Garrote
Director of European Climate, Environment and Infrastructure Executive Agency

p.8



Mikaela Martirosyan
Communication Trainee, REVOLVE

p.10 & p.18



Raphael Tsavkko Garcia
Managing Editor, REVOLVE

p.18 & p.76

Editorial Board

Belen Gutierrez Carmona
Marta Castillo Sánchez
Stuart Reigeluth

Digital Managers

Gary Leleu
Raul Jimenez van Hoorn
Sébastien Van Loock

Graphic Designers

Dariana Guevara
Émile Noël
Marc Rechdane

Photographers

Alice
Bruna Cases
Dana Marin
Francesco Ungaro
Jack Valley
Jamo Images
Luke Thompson
Michael Ndosi
Miikka A.
Nikki Watson
Norali Nayla
Raphael Tsavkko Garcia
Rollie Probe
Sam Te Kieffe
Tom Vierus

Managing Editor

Raphael Tsavkko Garcia

Founder

Stuart Reigeluth



Gloria Borrego
Responsible for management and administration, Manare.

p.26



Bruna Casas
Photographer

p.35



Srgjan Vidoeski
Project Manager, REScoop.eu

p.52



Sara Tachelet
Communication Manager, REScoop.eu

p.52



Felix Kriedemann
Project Manager, REScoop.eu

p.52



Jake Threadgould
Communication Officer, REVOLVE

p.60



Thomas Lymes
Policy advisor for mobility & air quality, Eurocities.

p.68



Daniela Berretta
International journalist and communications officer, Eurocities.

p.68



Belén G. Carmona
Correspondent & Communication Officer, REVOLVE

p.76

Printing

REVOLVE is printed on 100% recycled FSC-approved paper at ARTOOS printers that provide carbon certificates to offset their emissions.



Shipping

REVOLVE is delivered to you on bicycle or with e-vehicles. (International shipping via larger carriers.)



REVOLVE is committed to climate-conscious reforestation and tree-planting initiatives as part of our company's sustainability policy to mitigate the impact from our business and project travel activities.

revolve.media/reforest

To date, REVOLVE has planted 261 trees in reforestation projects in Roupage (BE) in 2020, Stoumont (BE) in 2021, and Martouzin (BE) and Zaragoza (ES) in 2022.

Cover image:

Gaitanos, 58, a fisherman from Cyprus, used to go fishing every day. Due to the arrival of the puffer fish, a voracious and venomous invasive species taking over the shallows of Cyprus, Gaitanos can rarely fish for other species; most of his catches are clogged with this species.

Source: Bruna Cases

REVOLVE Group is dedicated to communicating sustainability. With offices and staff in Barcelona, Brussels, Lisbon, Mumbai, and Vienna, we publish an international magazine ISSN 2033-2912 (print) and ISSN 2983-7456 (digital) that compiles the 'best of' from our online content in quarterly issues focusing on water (winter), ecosystems (spring), energy (summer), and transport (autumn) with the circular economy as a recurrent theme. To subscribe, order back issues, or discover all our publications, including our country and industry reports, visit: revolve.media/shop



REVOLVE content is licensed under **Creative Commons** Attribution-NonCommercial-ShareAlike 4.0 International (CC BY-NC-SA 4.0). All content in this magazine can be reused for other publications online and in print, as long as the respective authors and REVOLVE are referred to properly. For additional copies, PDFs, contributor details and other inquiries, please contact: info@revolve.media | +32 2 318 39 84



I have witnessed our transformative ocean conservation journey firsthand at the European Climate, Infrastructure and Environment Executive Agency (CINEA). Anchored in the ethos of the European Green Deal, our mission transcends mere programme implementation; it is a deep-seated commitment to the lifeblood of our planet – the oceans.

Our role at CINEA is not just about managing a substantial budget, though our €65 billion allocation for 2021-2027 is a testament to the EU's dedication to the Green Deal. It is about channeling these resources with a holistic approach to achieve the ambitions of the EU Green Deal. Our efforts through programmes such as the European Maritime Fisheries and Aquaculture Fund (EMFAF), the LIFE Programme and Horizon Europe represent more than financial investments; they are commitments to sustainable energy, eco-friendly maritime transport, and a thriving blue economy, channeling resources directly into the heart of marine conservation.

Fostering innovation lies at the core of CINEA's approach. Through the Innovation Fund, we are not merely funding projects but igniting a sea change in maritime practices by embracing low-carbon technologies. The Connecting Europe Facility (CEF) extends beyond upgrading port infrastructure, with every electric charging station and alternative fuel option introduced, marking a step towards a more sustainable maritime ecosystem.

The LIFE programme, EMFAF and Horizon Europe further encapsulate our ethos. Here, it is not just about preserving marine environments; it is about weaving the fabric of ocean literacy into the tapestry of society. Engaging fishermen, coastal communities, and the public, we are not just spreading awareness but nurturing an ocean-conscious culture.

What truly sets CINEA apart is our belief in the power of collaboration and education. Initiatives like the EU4Ocean Coalition are not just projects with objectives but movements

that galvanise community action against marine litter and environmental degradation. This is where I have seen the tangible impact of our work – in the hands of those who cherish and protect our seas.

Each of these programmes and individual projects functions like a piece of a larger puzzle. Meticulously designed, they fit into the broader picture of the EU Green Deal, promoting sustainability and environmental protection from various angles. These initiatives complement each other, addressing the needs of different beneficiaries and economic operators, thus creating a collective effect in our pursuit of a sustainable marine environment.

Our strategy at CINEA extends beyond a top-down approach. We actively fund and support grassroots initiatives, such as the European Network of Blue Schools, Youth4Ocean Forum, and EU4OceanPlatform, inspiring and uniting communities in our collective quest for healthier oceans. Our

own team's active participation in initiatives such as the European Union Beach Cleanup campaign illustrates a hands-on commitment to our cause. This involvement reinforces CINEA's dedication and that of its staff, to its green mission and serves as an inspiration and rallying point for broader community engagement.

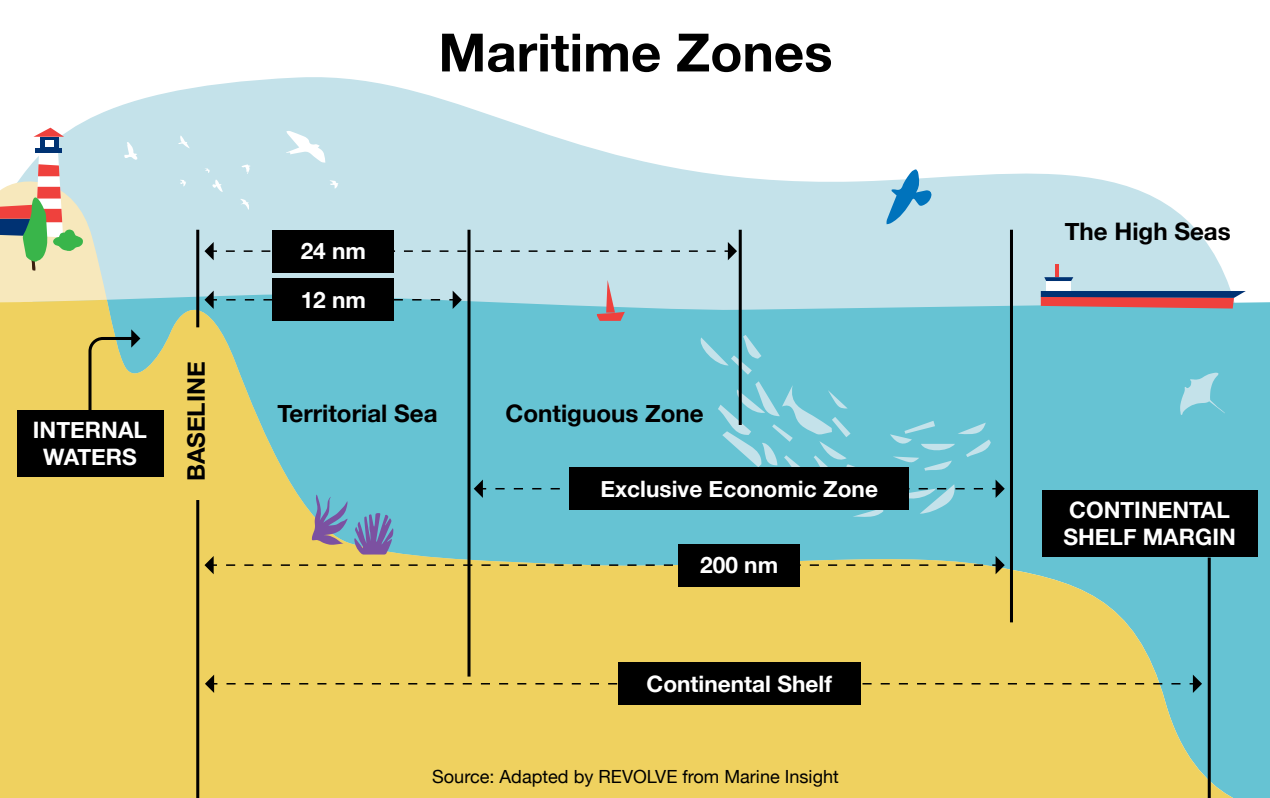
Reflecting on our journey, CINEA's role in ocean conservation is a mosaic of initiatives, each integral to the grand vision of the EU Green Deal. Our unwavering commitment to a cleaner, sustainable marine environment is our pledge to preserve the oceans for generations.

In charting this course, we at CINEA understand that the stewardship of our oceans is not a solitary endeavor but a collective voyage. It is a journey we undertake with every European citizen, every policymaker, and every partner organisation. Together, we are not just navigating the present but steering towards a sustainable, blue future. ●

The High Seas Treaty: A Beacon of Hope for Ocean Conservation

WRITER: MIKAELA MARTIROSYAN

83 Nations Unite to Safeguard the Vast, Unexplored Depths of Our Ocean.



High Seas, international waters, open ocean - all these terms describe the vast expanses of the ocean that are beyond the country's exclusive economic zone (EEZ), meaning that these areas beyond 200 nautical miles or 370 km from the coast of a country

can be used freely internationally for fishing, shipping, scientific research, and a number of other activities. The High Seas lie beyond the jurisdiction of any given country, which is why their governance falls under international law.

Seas of high importance

It can be challenging to understand the importance of the High Seas, of something that is not within our reach, and that remains largely unexplored, thus their immense value is often overlooked. The High Seas are faced with numerous threats, and if we have a closer look, combined they create a snowball effect, forming a sequence that leads to a more widely discussed issue such as climate change.

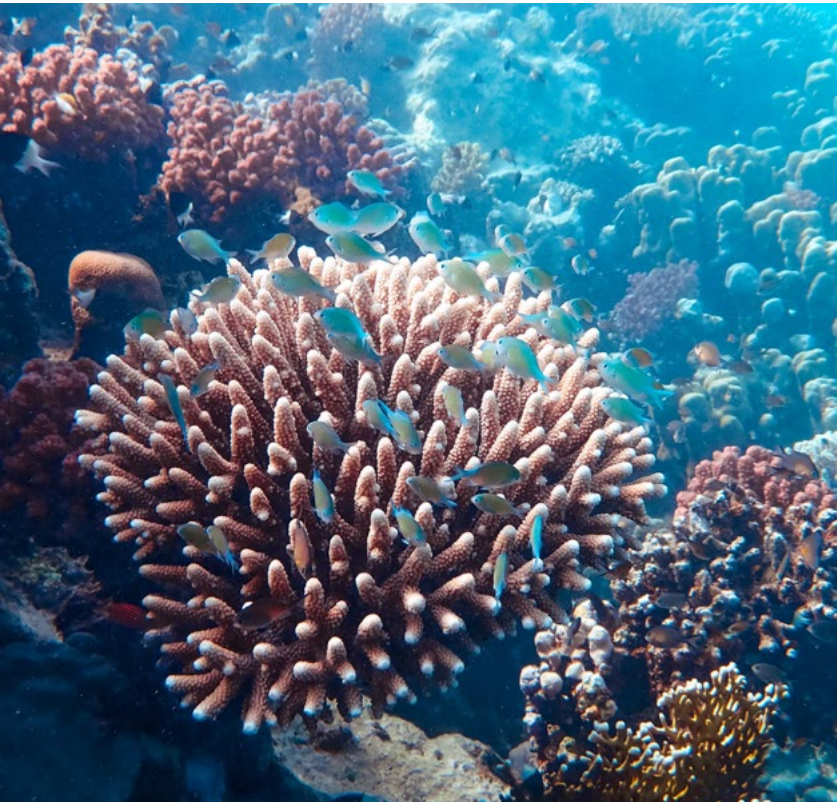
One of the major threats to international waters is illegal, unprotected, and unregulated fishing which entails fishing in no-take areas in most cases using prohibited gear. This leads to overfishing and habitat destruction by using such fishing practices as bottom trawling that damages the seafloor habitat.

This, in turn, influences the marine ecosystem and biodiversity of these areas. Another concern that has been raised is the increasing interest in utilizing genetic resources from the High Seas for biotechnological and pharmaceutical purposes. The implications of the potential impacts of such exploitations on marine ecosystems are not fully known.

While all these damaging factors are progressing, the High Seas are persevering in being the main ally in the fight against climate change. The High Seas comprise nearly **two-thirds of the world's ocean** and are home to **95% of the marine life**, including the **phytoplankton** (also known as microalgae) that not only provide food for a diverse array of marine organisms but also convert carbon into organic material acting like the trees on earth.

With the help of phytoplankton, the ocean serves as one of the biggest carbon storages, absorbing 25% of carbon dioxide (CO2) generated by human activities since the Industrial Revolution. After these microalgae die, they descend to the ocean floor, taking with them the trapped carbon, which will then be produced into oxygen, comprising more than half of the oxygen essential for our breathing.

The acknowledgment of the immense impact that the High Seas have on life on the planet and the urgency to mitigate the threats led to a creation of an agreement on the international level to protect open waters – the High Seas Treaty.



2

Reaching historic heights – The High Seas Treaty

Just like the High Seas themselves, the High Seas Treaty can be a convoluted concept to understand. The High Seas Treaty is a legally binding document outlining regulations for the

conservation and sustainable management of marine biodiversity beyond national jurisdiction – the reason why the Treaty is also referred to as BBNJ. To put it simply, the Treaty sets out rules for managing the shared space in the ocean that nobody can claim ownership of, therefore safeguarding these areas from harmful human activities.

“The High Seas comprise nearly 2/3 of the world’s ocean and are home to 95% of marine life, including the phytoplankton.”

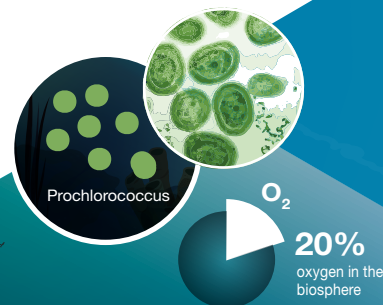
“The Treaty sets out rules for managing the shared space in the ocean that nobody can claim ownership of.”

- 1. Humpback Whales. Photo: Getty Images Pro
- 2. Underwater Photography of Coral Reef. Photo: Francesco Ungaro, Pexels
- 3. Fishes Near Coral Reef. Photo: Francesco Ungaro, Pexels

The 10 Dimensions of Ocean Literacy

Understanding how we influence the ocean and how the ocean influences us is at the core of ocean literacy.

Prochlorococcus is the smallest photosynthetic organism on the planet and yet it produces 20% of the oxygen in the biosphere.



1 Knowledge

What a person knows about an ocean-related topic and the links between topics. It also refers to the knowledge a person has about ocean decision-making, opportunities to participate and engage in ocean decisions, and access to information on ocean issues.

2 Awareness

The basic understanding that a situation, problem, or concept exists, along with knowledge of potential behaviors and solutions that may exist to address these problems, and how these can lead to policy and societal change.

3 Attitude

The level of agreement with, or concern for, a particular position. It also includes consideration of perceptions, values, and views towards an ocean issue, and how these can lead to policy and societal change.

4 Behaviour

Decisions, choices, actions, and habits with respect to ocean-related issues made by individuals, sector and policy actors, and institutions, with an intention to bring about whole system change.

5 Activism

The degree to which a person engages in a wide range of activities such as campaigning (social media, attending public rallies, or writing to elected officials) to drive policy, attitude, and behaviour change. One must also consider who gets to participate in activism and what the barriers are.

6 Communication

- a. The extent to which a person communicates with others, such as family and peer groups, on ocean-related topics.
- b. How and where people get information on ocean issues and what the most effective communication methods are.
- c. How institutions and organizations are communicating to different audiences about ocean issues.

7 Emotional Connections

How a person feels and emotionally responds when they think about, are near the ocean, or consider issues related to the ocean, coasts, and seas. Emotions can be positive, negative, or neutral, and all contribute to behaviour change.

8 Access and Experience

A person's real or artificial (for example, through virtual reality) interaction with the ocean, and the various ways in which they can access these experiences. Barriers to ocean access and experiences should also be considered.

9 Adaptive Capacity

An individual's capacity to adapt and respond to changing conditions related to the ocean (for example, climate change, change in ocean ecosystems and economies).

10 Trust and Transparency

The level of trust a person places in ocean information sources and their perception of how transparent information and associated platforms are.

From 'The Evolution of Ocean Literacy: A New Framework for the United Nations Ocean Decade and Beyond'

The BBNJ Treaty includes 75 articles with the main purpose of “taking stewardship of the ocean on behalf of present and future generations, in line with the Convention on the Law of the Seas (UNCLOS)”. The Treaty also keeps in line with the target set out at the United Nations Biodiversity Conference (COP15) to protect and restore 30% of the ocean by 2030. The extensive list outlined in the Treaty can be summarized into five key points stressed by the UN.

1. Protection of the ocean’s wild areas: The Treaty allows for the creation of marine protected areas (MPAs) in international waters. Similar to national parks under the government’s protection, these newly established underwater parks aim to safeguard underwater life.

2. Science for a healthy ocean: The High Seas Treaty promotes ocean research and development of marine technology and ensures that scientific knowledge is used to better the sustainable management of the ocean.

3. Global cooperation for a healthy ocean: The Treaty ensures the formation of a new international body that will oversee its implementation once ratified providing a platform for countries to collaborate. It also provides a framework for newfound ocean resources to be shared fairly and equitably among all countries.

4. Building climate resilience: To address the pressing issue of global warming with an alarming rate of ocean heat-up, the Treaty underlines provisions on how to sustainably manage the ocean that will allow to build resilience to climate change and ocean acidification (the process of increasing amounts of CO2 dissolving into the ocean, making the ocean more acidic).

5. Sustainable Development Goals inclusive: The Treaty has been developed in line with the 2030 Sustainable Development Goals (SDG) Agenda, specifically SDG14 which aims to preserve and restore fish stocks by preventing overfishing alongside minimizing marine pollution.

Two decades in the making – the Treaty timeline

The High Seas Treaty was officially signed by 83 countries in the United Nations headquarters in New York in September 2023. It has been coined as a “historic agreement” sealing the efforts to protect international waters. However, this monumental achievement did not come easily with numerous rounds of negotiations throughout the years. Prior to the signing of BBNJ, there were almost two decades of preparations and meetings,

and here are the key milestones:

- **In 2004** the UN began preparatory meetings and adopted the Convention on the Law of the Sea (UNCLOS) which established a legal framework, however, did not establish guidance on the sustainable management of the High Seas.
- **In 2007** a working group assembled by the UN General Assembly (UNGA) began research on the issues faced in the High Seas and the further development of conservation measures.
- Almost a decade later, **in 2015**, UNGA formed a Preparatory Committee set to lay the foundation for BBNJ Treaty negotiations.
- The first round of negotiations took place in **2018** in the UN headquarters, marking the first Intergovernmental Conference on Marine Biodiversity of Areas Beyond National Jurisdiction (IGC), which was followed by 2 sessions in **2019**. Further negotiations were postponed due to the pandemic; thus they resumed in **2022**, however, a consensus was yet to be achieved.
- **March 2023** marks significant progress in the adoption of the Treaty as a final text was agreed upon. The Treaty was then adopted in **June 2023** and was opened for signatures in **September 2023**.



3

- **After almost two decades of negotiations, the Treaty has been adopted and signed by 83 countries.** The Treaty will remain open for signatures until 2025 giving the opportunity for countries that haven’t signed it yet.

Ratification Tracker

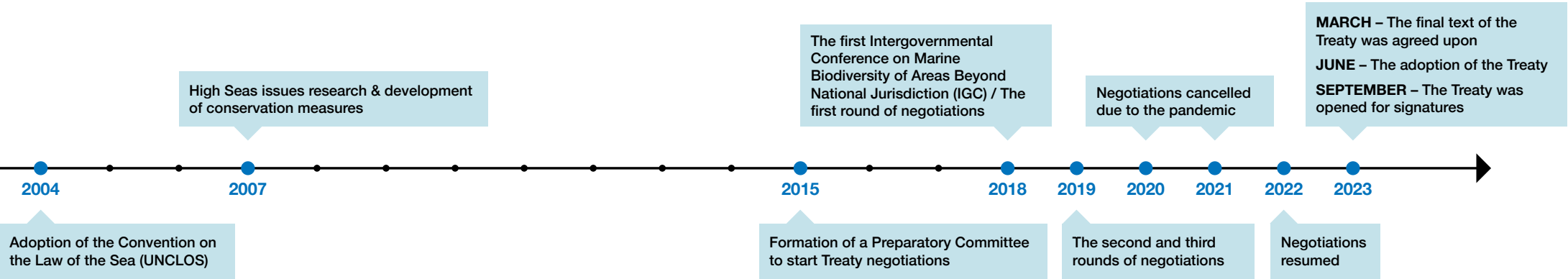
The signing of the BBNJ Treaty is a pivotal achievement and a significant step towards the protection of

the High Seas ecosystems and the mitigation of impacts of human activities in these vast oceanic areas. However, for the Treaty to enter into force, it needs to be ratified (ensured consistency with domestic laws) by national governments. **A minimum of 60 countries** need to ratify the Treaty after which it will take 120 days for it to become binding international law (High Seas Treaty final text).

The High Seas Alliance created a Ratification Tracker that will monitor

the process of ratification by each country. The Alliance urges national governments to fast-track the ratification and reach the ambitious goal of having the Treaty in effect by the next UN Ocean Conference, scheduled for June 2025.

The future of the High Seas Treaty now hinges on its effective implementation and enforcement as countries begin the process of ratifying and translating the Treaty’s provisions into national laws and regulations. ●



Ocean Literacy: A Gateway to Sustainable Management of the Ocean

REVOLVE talks with UN Special Envoy for the Ocean,
Ambassador Peter Thomson, about the importance
of combining hope and action in addressing ocean issues.



2

and playful animal about the size of a human. But the fact is that if pandas were to become extinct, we would continue to exist.

On the other hand, my valiant logo prochlorococcus, is so small that people cannot see it. Prochlorococcus is the smallest photosynthetic organism on the planet and yet it produces 20% of the oxygen in the biosphere. Were it to go extinct, so would we. Pointing that out is meant as a wake-up call that we cannot continue our current ways of polluting, acidifying, and deoxygenating the ocean without consequence.

Did you learn about Prochlorococcus in school? I did not. And yet it is more fundamental to our existence than lions or pandas.

Widely defined as “a comprehension of how the ocean influences us and how we influence the ocean,” ocean literacy has taken a pivotal place in furthering the sustainable management of the ocean and has gained more importance when referring to the successful implementation of such treaties as the Biodiversity Beyond National Jurisdiction (BBNJ), also known as the **High Seas Treaty**. Mikaela Martirosyan and Raphael Tsavkko Garcia from REVOLVE talked with Ambassador Peter Thomson, UN Secretary-General’s Special Envoy for the Ocean, to learn more.

What is the role of ocean literacy in the implementation of the UN High Seas Treaty, also known as the BBNJ Treaty?

There needs to be an understanding of what the High Seas Treaty is in the first place. For instance, having marine protected areas (MPAs) on the high seas has now been made possible thanks to the BBNJ Treaty, which of course will only be in full force

once it is ratified. And the very best way people can fully comprehend the potential of the High Seas Treaty is through education. We need to bring this knowledge to our schools and universities to ensure the treaty’s potential is met.

To better illustrate the need for ocean literacy in school curricula, I like to refer to my logo, which is a prochlorococcus [a genus of tiny marine cyanobacteria]. I like to contrast my logo with the WWF’s highly successful panda logo. Human beings can relate to the panda, being a warm, cuddly,

- 1. Indigenous Fijian fisherman throwing fishing net in Vanua Levu, Fiji. Photo: Getty Images
- 2. A stilt fisherman in the sea, Sri Lanka, Asia. Photo: Getty Images
- 3. Fishing in Fiji. Photo: Tom Vieras, Ocean Image Bank
- 4. Image of Prochlorococcus marinus with overlay green coloring. A globally significant marine cyanobacterium. Photo: Luke Thompson, Nikki Watson, Flickr

“Take away all those names that human beings have put on the map, and you get down to what really matters: that there’s just one ocean.”

In your opinion, what is missing from school curricula and what needs to be done to achieve a better level of blue education?

In my view, it's very deficient. Observing what my children and now my grandchildren are being taught, when it comes to the ocean things have not changed much. Geography was my main subject when I was at school, and what you were taught were the names of oceans, which is relatively unimportant information. Take away all those names that human beings have put on the map, and you get down to what really matters: that there's just one ocean with many features. That's the first thing you should be taught.

The reason it's important to learn there's just one ocean is for example the phenomenon of rising sea levels. If you think of the ocean as a big bathtub without an outlet plug, you appreciate that new water entering the bathtub has only one way to go, and that's up. Therefore, a massive melting of the Greenland icesheet, for example, has existential consequences for an atoll country like Tuvalu, on the far side of the world, or indeed for river delta countries such as Bangladesh.

Do you think that a sense of doom and gloom has made us immune to that? Do we need to find an alternative approach to shift the narrative and reach out to people?

I'm a grandfather and a couple of my grand-daughters are young teenagers. When you're a child you don't really understand the bad news, but when

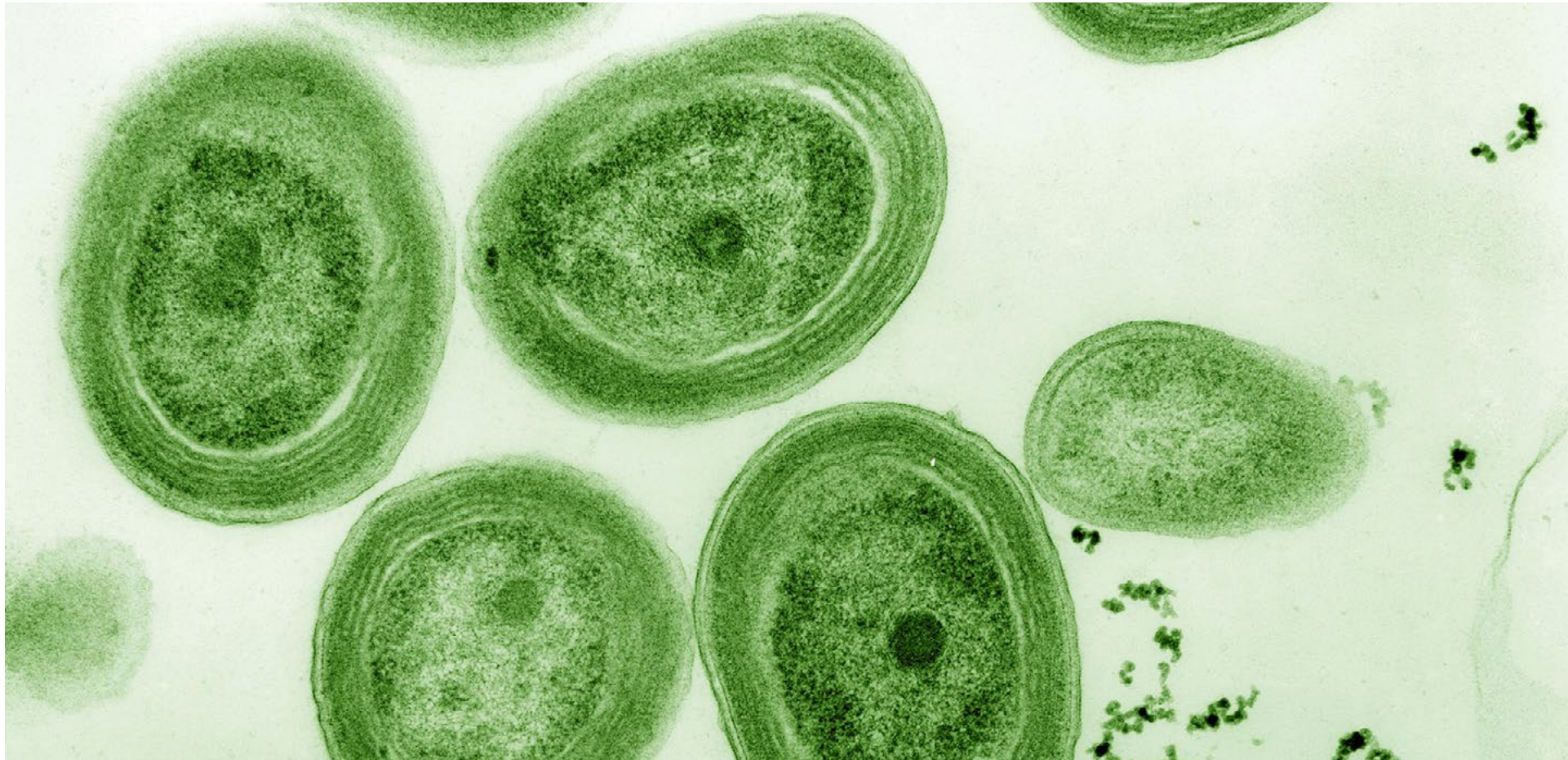
you're a teenager you learn it through what you hear and read. These days unless you're locked in a cocoon of gaming or TV fantasies, you just can't avoid it. The bad news is that we're on a planetary trajectory towards somewhere near 3 degrees Celsius global warming by the end of this century, which is within their lifetimes. We're talking here about a world of devastating storms, terrible floods, widespread droughts, rising sea levels, and fires at a scale that we're seeing the beginnings of now which will be far worse as those temperatures inexorably rise.

Knowing that this information comes from our most trusted sources, like the Intergovernmental Panel on Climate Change (IPCC) and the World Meteorological Organization, for a young person these future forecasts can be very depressing.

I spend a lot of my time thinking about how to interpret this information for my grandchildren, and indeed for all young people. Of course, hope is the big thing. But not only hope, the need for us all to be taking positive action is the way ahead.

“The genius of our species lies in our qualities of innovation and sharing.”





4

Can we make the necessary transitions and adaptations? My answer is absolutely yes. Always remember that the genius of our species lies in our qualities of innovation and sharing. Over the eras, these qualities have been the foundation pillars of our civilizations.

We have come from being cave people to explorers of outer space in a very short time and that is because of the innovative brilliance of our species. And the sharing element has been the basic bond of societies, without which we would be nowhere. Those two capabilities of humanity are heightened in times of crisis, thus since we are now facing a triple planetary crisis, we should expect better sharing and better innovation. I see signs of that already happening.

Looking to the future, young people should be planning for careers in the sustainable blue economy in sectors such as the greening of shipping and offshore energy. We know that new forms of food can come from the ocean.

What will they be and who will design and produce them? Young professionals and entrepreneurs of course. Sustainable aquaculture is going to provide a huge part of human nutrition, while the fisheries industry needs to be greened and decarbonized. Changes are afoot. All these things present good career opportunities.

So first of all, I would say don't worry that there won't be jobs. To make the necessary transitions, we'll be doubling up on the need for training, brain power and muscle power.

How critical is ocean literacy for the sustainable management of the ocean and how does it fit into the international agenda for sustainable development?

It is pivotal. When we talk about literacy, apart from teaching, we are talking about understanding. We have to understand what's going on around us, as it's all changing very rapidly. Thanks to global warming, ocean currents are changing, marine ecosystems are on the move, coral is dying.

What role do marine protected areas play in conserving ocean biodiversity and how does ocean literacy tie into that?

The great news is that we have now all agreed to the Global Biodiversity Framework, as adopted last December 2022 in Montreal under the UN Convention on Biological Diversity. This has upped the global target for marine protected areas from 10% by 2020, to 30% of the planet to be protected by 2030. A proportionate part of that 30% will be marine protected areas since the ocean covers over 70% of the planet's surface.

In places like Fiji, most of the hotels already have no take-zone marine protected areas associated with their properties. This makes good economic sense for all concerned, including the hotel guests who are paying to see beautiful nature.

But when it comes to large MPAs, there are many who see the logic in flexibility of rules. Most coastal communities understand the need for MPAs and for many indigenous communities, seasonal marine protected areas have been in existence for thousands of years. But these communities have also to feed their children, and they rely on fish from the sea for sustenance and income on a daily basis. That is why there has to be flexibility and provisions in some of these marine protected areas for the local populations to have access to marine resources.

The other aspect of marine protected areas that I think people need to understand is that you cannot expect the poorest people in the world to cover the costs of the establishment and governance of these huge marine protected areas that just happen to be in the EEZs of their countries. We should not expect these communities to carry that burden on their own. Understanding that is also part of ocean literacy. ●

“You cannot expect the poorest people in the world to cover the costs of the establishment and governance of these huge marine protected areas that just happen to be in the EEZs of their countries.”

I come from Fiji in the south-west Pacific. Tuna-catch licensing is really important for the revenues of Pacific Island countries. In a place like Tuvalu, something like 90% of the foreign exchange is from tuna licensing. But we are advised by our scientists that three of the five commercial species of tuna in our region will be gone by the end of this century, because of the changing ocean conditions. Obviously, this has major consequences for the economies of the region.

We have to understand these consequences to be able to plan before they eventuate. That is all about ocean literacy, investing in science, trusting the science, and acting accordingly.



Taking Care of Water, a Challenge We Have to Win

WRITER: GLORIA BORREGO

Amidst the strides of last century's progress, water has been often underestimated.



- 1. School children collecting water from a pond in a very dry environment. Photo: Michael Ndosi
- 2. Student from the School in a manually dug well. Photo: Michael Ndosi
- 3. Sunflower crops in the Engejisosia community. Photo: Michael Ndosi
- 4. Students filling buckets with water from a small stream. Photo: Michael Ndosi
- 5. School area where the aridity of the land is evident. Photo: Michael Ndosi

Water has indeed been the cause of fighting and wars for thousands of years. The first water war occurred in 2500 BC in Mesopotamia, when the king of Lagash built canals to divert the river from Umma, near present-day Baghdad. Currently, more and more countries are suffering from water scarcity or pollution, which has caused these struggles to multiply exponentially and spread as wildfire.

In the last 22 years, more than 1,000 water conflicts have occurred worldwide, according to data from the Pacific Institute, a non-profit organization that studies the global water situation. A figure that contains many threatened lives, many broken families, and thousands of deceased.

A transversal and global challenge

A human is capable of surviving weeks without eating, but would only live for a few days without water. And that transparent liquid that gushes out of your tap is a treasure that comes in drops in another place. With the social and economic development of the last centuries, water has been largely forgotten. However, we know that our existence depends on it.

Drinking water, an increasingly scarce vital resource

The quality of the water has been deteriorating exponentially. Intensive farming, industry, and consumption models have contributed to this at breakneck speed. In addition to the adverse conditions of arid climates, human activity results in pollution, the acceleration of climate change, and the overexploitation of resources. Have you ever stopped to think

that the problem may be much closer than you imagined and the stakes much higher?

It is not necessary to travel many kilometers to observe the consequences of all these practices. Every year more Spanish municipalities warn their neighbors that the tap water is not potable. At the end of 2022, the environmental organization *Ecologistas en Acción* highlighted in their report ‘Estudio del contenido en nitratos de las aguas de consumo humano’ (‘Study of the

nitrate content of water for human consumption’) that more than a million people in 197 Spanish municipalities drink water contaminated by nitrates. This situation mainly affects small towns in sparsely populated or emptied areas (90 of these towns have fewer than 500 inhabitants) and larger municipalities such as Ciudadella or Teruel.

The cause is clear: intensive macro-farms and their use of nitrogen fertilizers in agriculture. In Puebla de la Reina, Badajoz, there are 710 in-

habitants and 876,448 farm animals live, of which 845,836 are poultry. In Almazán, Soria, there are 5,411 people and 121,543 pigs.

The water wars

In 1995, World Bank president Ismail Serageldin said: “If the wars of the 20th century were fought for oil, the wars of the next century will be for water”. And the more we venture into the 21st century, the more we realize how true Seragedin’s words are.

Regardless of purchasing power, birthplace, or religion, everyone needs access to clean water to live. The problems related to water resources are diverse, and that is why joint work is essential for the solution of each case to reach all territories. Involved stakeholders must join forces and capacities to give water the value it really has and make responsible use of it.

Alarming data reflects the urgency of the need to cooperate at the international level and understand water as the vital and scarce water is:

- Somalia has spent several years without rain. **This is the worst drought in the last 40 years** and between January 2021 and September 2022, **more than a million Somalis have had to emigrate** and abandon their homes in search of food and water to survive, according to UNHCR. A region where jihadist militias control large areas, and demand high taxes from local farmers for the use of land and water resources.
- In Nigeria, faced with a decline in fertile land, the Fulani herders of the north had to descend to the south and invade the farmers' lands. This conflict has **claimed more than 10,000 lives so far**, according to Amnesty International.
- In India, the privatization of water generates strong conflicts. Dalits experience threats and violence when they try to access water, and their water sources are frequently intentionally contaminated.
- Egypt and Ethiopia clash over the Nile. Following the construction of the Great Renaissance Dam on the Blue Nile, Egypt has seen its sovereignty over the river's resources threatened.
- The **confrontation between Bolivia and Chile over the management of the Silala waters** began in 1908 when Bolivia accused Chile of diverting water through artificial channels. In December 2022, the International Court of Justice ended more than 100 years of disputes, noting that they are international territorial waters and that both countries have access.

These are just some of the water-related points of contention around the world, but they serve to confirm that we are facing a global problem that transcends borders.

Projects that fight for change

Despite the fact that governments and the business world have not prioritized water in their decisions, for decades there have been movements and social actors working on issues related to this scarce and precious resource.

The *Maji Safi* (meaning 'safe water' in Swahili) Project was developed by the NGO Manare and AfrikAmiga, two non-profit Spanish institutions that seek to provide sufficient and safe water for the 400 students of the Engejisosia primary school in northern Tanzania by building a well and repairing the rainwater harvesting system.

This project will include the necessary training and monitoring so that the impact of the action is long-term, tangible, and sustainable. What may seem like a grain of sand in the desert, an isolated action, is the confirmation



3



4

WATER

that the fight has begun, that it is no longer time to lament, that it is necessary to collaborate, and that if today they are the ones who live without the most important resource, tomorrow it could be you.

Reversing the current trend is an obligation that we face as a society to guarantee access to safe water in the future.

We must think about what really matters and fight so that all people can count on it to have the opportunity to live with health and dignity at any cardinal point of the planet.

CALL TO ACTION: If, after reading this article, you want to be part of this change that started small but that together will become immense contact www.manare.org. ●



YOUR CONTRIBUTION TO THE TECHNICAL PROGRAMME

The submission portal stays open until 15 January 2024.



ITS World Congress | 16-20 September 2024 | Dubai World Trade Centre

The response to our call for contributions has been nothing short of inspiring. Thank you for your ongoing enthusiasm and dedication to making the Congress a resounding success.

More info: itscongress.com/technical-programme



ORGANISED BY



CO-ORGANISED BY



HOSTED BY



SUPPORTED BY





Dhikraa is a quarterly podcast curated by AMWAJ and produced by REVOLVE that collects water stories from around the Mediterranean.

We want to spark curiosity and respect for our common Mediterranean culture and water ecosystems. Join us on a journey around the Mediterranean to discover the many reflections of water stories in the region.

Listen to Dhikraa on:



amwaj-alliance.com/dhikraa/



VIEWS

The Warming Sea

PHOTOGRAPHY AND TEXTS BY **BRUNA CASAS** FROM RUIDO PHOTO

Explore the direct impact of rising sea temperatures on coastal communities across the Mediterranean

The Mediterranean is the fastest warming sea in the world. Its temperatures are going up 20% faster than the global average. This increase in temperature is lethal for marine life. The effects of warming waters and the rising sea levels are already having a direct effect, not just on biodiversity, but also on coastal communities all along the Mediterranean.

In this project, we have documented the effects of the warming sea on fishermen across the Mediterranean and the studies scientists are conducting to understand how heat is affecting the sea and its biodiversity.

In Spain, a group of biologists are documenting the state of marine life in the Mediterranean along with fishermen off the coast of Catalonia.

The rise in temperature is making fishing harder for artisanal fishermen and small fishing fleets. The catches have become smaller, and they now have to travel further and to deeper waters to find fish.

Sandra Ramirez, 32, is one of the leading scientists working with Joaquim Garrabou's team, the main scientific group tracking marine heat waves in the Mediterranean.

They are tracking marine heat waves through marine thermometers, which record hourly the sea temperature in different depths in particular points off the

coast of Catalonia and South of France and later translated into graphic data like temperature maps. They are also investigating the effects of the warming sea temperature by analyzing the state of the red coral which bleaches when dying and the Gorgonia an endemic organism like coral who is disappearing massively due to the rise in temperature.

In Tunisia, the Blue Crab, an invasive and voracious species original from the Red Sea, has taken over in the region due to the increase in water temperature. Artisanal fishermen are struggling to keep up. The increase in temperature and pollution has provoked a downfall in size and number of fish, making it harder for fishermen to live. When the blue crabs get trapped in the nets they break and become useless and need to be replaced, impacting directly on Tunisia's coastal economy, which depends on fishing.

"What it used to be a red basin has now turned white, becoming dead. It's like watching a forest devastated by fire."

Joaquim Garrabou head of the research team about marine heat waves at ICM

In Cyprus, the arrival of invasive species and the rise in the sea temperature is making livelihood for fishermen impossible. Many have to combine fishing with other sources of income in order to meet ends.

Joaquim Garrabou, the head researcher of the tracking marine heatwaves team, and Sandra Ramirez, a Ph.D. student, dive deep in the Medes Islands to collect samples of Gorgonia and red coral.



Above: When fish are caught, they get sorted by size and species. For the past years, the buckets have become emptier by the year.
Below: Fishermen are struggling to make a living from fishing due to the increasing reduction of fish stock in the Mediterranean. In the picture, two fishermen empty their nets off the northern Catalan coast.



Above: Fishing for sardines is a hard task; it requires a long journey at sea. The nets are set several times through the night. The lighting boat goes around them, trying to catch the attention of sardines towards the light. Later, the nets get pulled towards the surface, and the sardines get trapped. **Below:** Religion and superstition play a big role in the lives of those at sea. On most fishing boats in the Mediterranean, small figures of saints, Marys, and prayers can be found hidden around the vessels for good fortune and protection.





Xenia Puigcerver, a marine biologist at ICM (the Marine Science Institute of Catalonia), awaits at dawn on the deck of a fishing boat for the first catch of the day. She will weigh and analyze the state of the octopus and during their journey at sea.



Above: A 'Drina,' the Tunisian term for the newly designed traps primarily used to catch blue crabs, is tossed into the water by fishermen in Gabes, just a few kilometers away from the sulfates factory. **Below:** Sonia prepares and cleans a freshly caught crab brought by her husband Thabet, a local fisherman from the Island of Qerqennah. With the arrival of the blue crab, many are seeking new approaches to adapt. Sonia, in particular, sells the crab meat to restaurants and private buyers while also venturing into a cooking business specializing in blue crab on the island.



Above: An octopus is being measured by Xènia. She is part of ICatMar, a team dedicated to studying and tracking the state of certain fishing species in the Catalan coast to analyze their current state. **Below:** At the port of Ajim, the second-largest fishing port on the island of Djerba in southern Tunisia, a collection of unused fishing boats can be seen resting on the ground.



An old fishing boat lies half-sunken outside the main fishing port on the Island of Djerba in Tunisia.



Thabet Ezzedine, 46, is a fisherman from the island of Qerqennah. In recent years, he has watched his catch fill up with blue crab.





Above: An intermediary dedicated to marine trade empties one of the bags full of blue crab he has just bought on a dock in the Qerqenah Islands.
Below: In the port of Zarzis, located in southern Tunisia, the fishing net of a recently arrived boat lies untangled on the deck.



Above: A fisherman carefully folds and untangles his net after a day at sea.
Below: A diver, a member of a team at ICM dedicated to tracking marine heatwaves in the Mediterranean, collects a group of thermometers set to track temperature at different depths that will later be analyzed.





Haris Peratikos, 47, a fisherman from Ayia Napa, a small fishing town in Cyprus, has been working as a fisherman for years. Now, due to the decrease in fish stock and the arrival of voracious invasive species, he can no longer make a living from the sea.



Above: The effects of marine heatwaves can be tracked through thermometers and through the effects they have on biodiversity. They are especially harmful to species like red coral, which, due to heat, starts to bleach until all their organisms die. **Below:** A strong squall passes over the Island of Mallorca, leaving vast devastation along the island.



WORLD FUTURE
ENERGY SUMMIT

Hosted by



Is it possible to change tomorrow today? We think so.

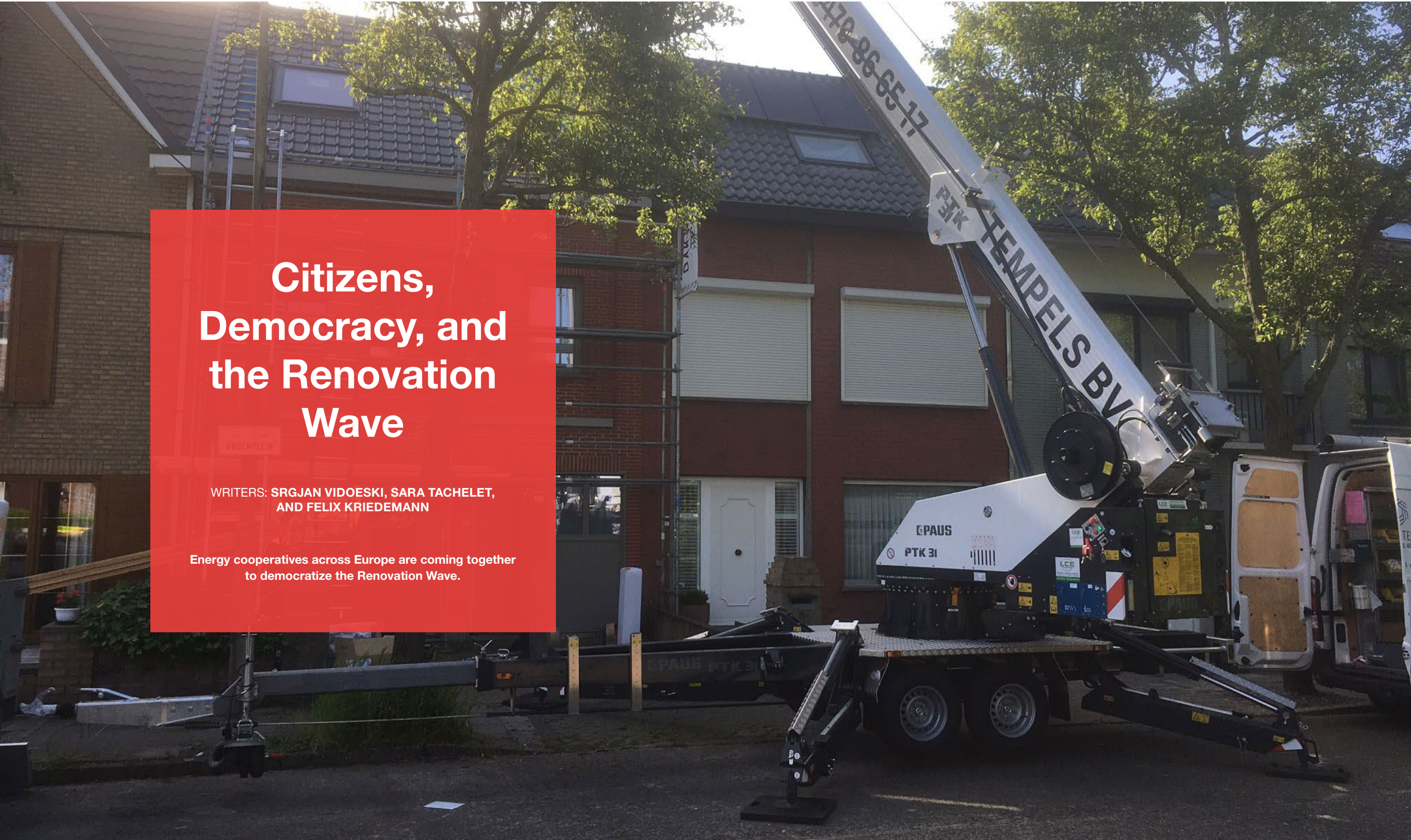
Register now

16 - 18 APRIL 2024 | ADNEC, ABU DHABI



worldfutureenergysummit.com





Citizens, Democracy, and the Renovation Wave

WRITERS: SRGJAN VIDOESKI, SARA TACHELET,
AND FELIX KRIEDEMANN

Energy cooperatives across Europe are coming together
to democratize the Renovation Wave.

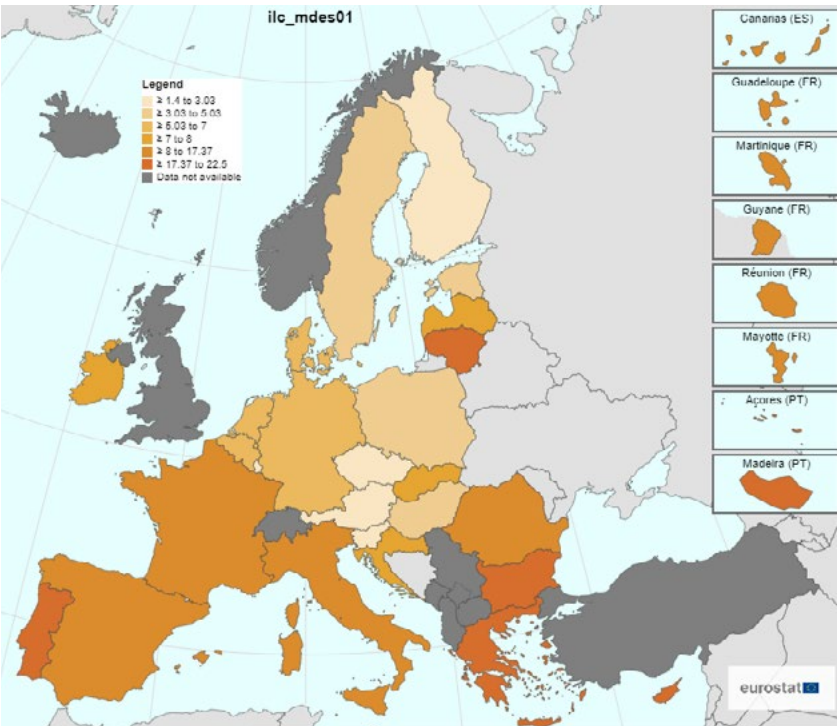


2

‘Together we are stronger’ is the motto for community-led initiatives to bring ground-up involvement in renovating buildings. Our homes are more than just shelters; they are where we create lifelong memories and find comfort. These dwellings are in many ways essential to our lives and well-being, yet we often overlook their energy efficiency and environmental impact. When we do contemplate improvements, the costs of renovations can be a significant barrier.

Our homes: building blocks for climate change resilience

Today, households are responsible for up to 40% of Europe’s total energy consumption and a staggering



3

75% of homes are considered as inefficient. The renovation awaiting the building stock is immense given the millions of old edifices across Europe. This reality is a stark reminder that many Europeans are living in damp and leaky dwellings that often rely on polluting fossil fuels, despite the European economy’s worth of €14.5 trillion in 2021. Fortunately, a shift is underway, as collective renovation projects gain momentum across Europe.

Renovating our homes is crucial to save on energy bills, enhancing energy efficiency, reducing energy demand, and increasing our household resilience against the challenges of climate change. However, renovations are often prohibitively expensive, intrusive, time-consuming, or poorly executed. Consequently, many citizens hesitate to undertake renovations or simply cannot afford them. Luckily, ground-breaking solutions are emerging. Through energy democratization policies, European residents

are being empowered to embark on – and own – their renovation journey.

The rising role of energy cooperatives

Local energy cooperatives and communities have emerged as trusted partners in the process of building renovations. They provide access to information, help home-owners to find reliable contractors, and assist in up-grading heating and cooling systems. Energy cooperatives are turning renovations into a citizen-led endeavour, fostering a participatory, communal, and collective approach. Cooperative citizen-led renovation programs offer reliable services and reduce the overall cost of the renovations due to their not-for-profit nature.

In the last 10 years, there has been a significant focus on citizen-led renovation (CLR) activities at REScoop.eu, the European federation of citizen



4

energy cooperatives. The federation have been developing CLR activities for several years, and there is now a growing interest in the development of CLR programs. The success of cooperative citizen-led projects across the EU, such as EcoVision in Ireland and Izgrei in Bulgaria demonstrates that citizens are coming together through their local energy cooperatives to carry out renovations for a more comfortable and energy efficient future.

Empowering communities through energy efficiency

The increasing focus has been put on the role of energy savings as a crucial enabler to decarbonize our

energy consumption and achieving climate neutrality. The so-called “Energy Efficiency First” principle has inspired policy-makers to put in place more ambitious energy efficiency targets and to empower stakeholders across the energy market to accelerate the renovation wave. In 2023, the EU made substantial progress by introducing energy communities in legislation related to energy efficiency and building renovations. This powerful legislative change means that citizens can now come together to carry out energy efficiency measures, such as various retrofitting projects, without depending on multinational corporations. This makes the process more local, reliable and democratic. Furthermore, REScoop.eu’s Guidelines on Community Heating and Cooling

highlight the connection between building renovations, heating systems, and provide guidance on how establishing citizen-led initiatives.

Only 5 years ago, CLR activities were limited in number. However, thanks to regulatory support from our governments, and the pressing need to decarbonize our buildings and heating and cooling systems, we are witnessing an uptake in community-led projects. This only marks the beginning of a process of that places local skills, benefits, and control of building renovations directly in the hands of citizens. These projects have transformed what was a sometimes frustrating process of renovations into an opportunity for community building, collective decision-making, and shared efforts.



5

Transforming retrofitting business models

Citizen-led renovation represents a transformative renovation business model that places citizens at the centre of the process. By actively participating in retrofitting activities and providing renovations services to their members, energy cooperatives are, democratising the building sector. Moreover, by engaging with stakeholders and selecting collaborators, energy communities are supporting local businesses and contractors. As a result, their contributions to local economies have grown significantly.

Apart from the advantages for the local economy and the energy transition, the involvement of energy cooperatives in the retrofitting business establishes a level of trust difficult to match. Some energy cooperatives also offer energy audits as part of their renovation services, ensuring the best possible value. Since they are already familiar with local needs, they provide a customised approach to each renovation project, guaranteeing the highest energy efficiency improvements at an agreed-upon cost.



6

The principles of citizen-led renovation therefore represent a major paradigm shift in energy efficiency renovations. Citizens are no longer mere consumers of renovation services, but active participants in the renovation wave and the green transition. Citizen-led renovations aim to become a powerful force for good in shaping the future of building renovations.

One-Stop-Shops in development

Under EU legislation, One-Stop-Shops (OSS) serve as centralized hubs for integrated solutions and

services, including renovations. As a dynamic extension of REScoop.eu’s commitment to citizen-led initiatives, the development of One Stop Shop models for Citizen-led Renovation, stands as the crown jewel of prior achievements in cooperative renovation services. There are pioneering examples to be found across Europe.

In East Flanders, Belgium, Energent has established their “Collective purchasing renovation” project. The project leads the charge in fostering sustainable home renovations with its citizen-led approach and integrates innovative automation tools. This allows them to offer flexibility in reno-

- 1. Work on site, 2023. Photo: Energent
- 2. Renovation advice by Energent. Photo: Energent
- 3. Inability to keep home adequately warm. Photo: Eurostat, 2022
- 4. Workers renovating a window in Greater Manchester. Photo: People Powered Retrofit
- 5. Sustainable renovation of a home: installing insulation, double glazing, and solar PV, 2023. Photo: REScoop.eu
- 6. The team of Les7Vents. Les7Vents. 2023
- 7. Carbon Coop site visit showing installed heat pump. Photo: Carbon Coop

“Homes consume 40% of Europe’s energy and 75% of homes are considered inefficient.”

– Source: European Commission



7

vation measures based on individual preferences and budgets, as well as digitalise building renovations. The service has successfully engaged 900 clients annually, catering to a diverse range of motivations: from wanting to improve resilience to climate change, to enhancing energy efficiency, or simply financial reasons.

Energent’s distinctive cooperative ownership by over 2,000 citizens prioritises impact over profit, reflecting the movement’s commitment to community-driven values. In addition to its cooperative business model, Energent’s strategic use of technology is noteworthy, as it allows them to process solar panel calculations, and advisory reports. These additions further contribute to efficient upscaling and work professionalisation of energy-efficient and impactful home renovations.

In Ireland, EcoVision, formerly known as Energy Communities Tipperary

Cooperative (ECTC), emerged as a pivotal force in home renovations in the county of Tipperary. Driven by cooperative principles, hey have established a citizen-led One Stop Shop retrofit service that significantl-ly impacts local employment and community well-being. By focusing on middle-class homeowners and “empty nesters, Ecovision has been operating successfully for over 11 years now.

Their work extends beyond renovations and aims to simplify the renovation process while adding elements of trust and community building. To-day, Ecovision offers a comprehensive range of services, serving as a blueprint for the Irish government’s national One Stop Shop programme. With over 920 homes upgraded since 2012 and €12 million in investment secured, Ecovision stands as a beacon for carbon footprint reduction, alleviating fuel poverty, and fostering community-owned action. The

organization’s citizen-led ethos is ingrained in its mission, overseen by community organization members on a not-for-profit board of directors.

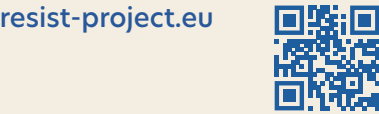
In France, Les 7 Vents, a hybrid-funded cooperative in Normandy has been a key player in advancing sustainability in their region for over 20 years. Through their “Espace France Rénov” service, backed by national and regional subsidies, the cooperative offers guidance for retrofitting homes, businesses, and municipal buildings to low-energy standards. They operate in the La Manche department for home retrofitting and the broader Normandy region for community energy support and private contracts.

Les 7 Vents serves as an intermediary between the public sector and the private contractors. Their annual engagement with over 2,000 clients highlights the success of their citizen-led, ecologically-driven approach. Key features of their work include a dedicated research and development team, the implementation of a “blockchain” system, and an internal ecosystem emphasizing cooperative governance and a horizontal business model.

The road ahead

Each cooperative clearly has its own unique additions and approaches. By sharing the experiences, struggles and wins under the umbrella of the European federation of citizen energy cooperative, a range of business model are being created and shared fit for the EU and its diversity.

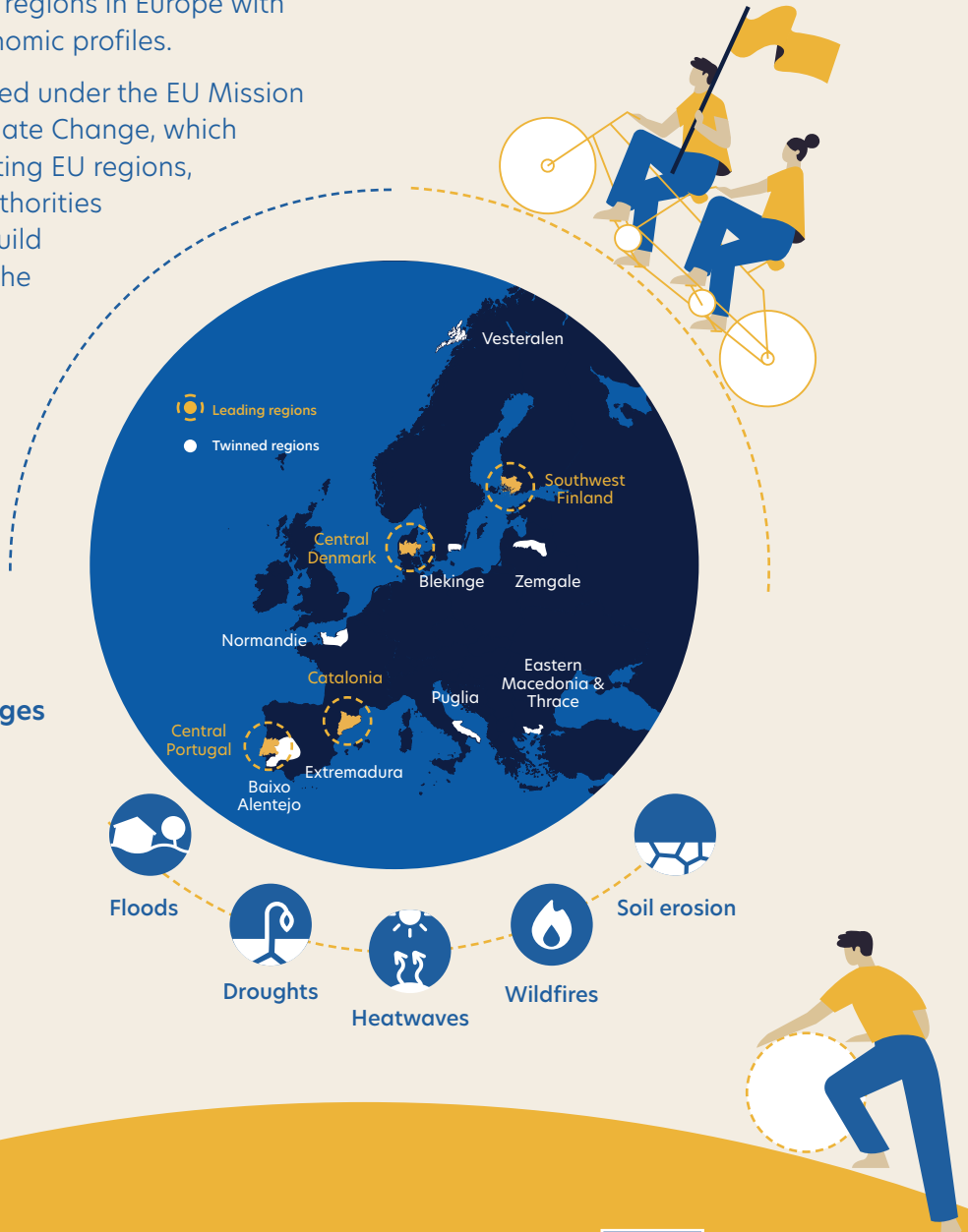
The shift towards citizen-led renovations is an inspiring movement that provides for a unique approach to renovations. With citizens at the centre, these projects promise a greener, more sustainable future for building renovations. ●



RESIST is a five-year EU-funded project built on the real challenges and needs of twelve climate-vulnerable regions in Europe with different socioeconomic profiles.

The project is funded under the EU Mission Adaptation to Climate Change, which focuses on supporting EU regions, cities, and local authorities in their efforts to build resilience against the impacts of climate change.

Key challenges tackled



Follow us:

- RESIST Project
- RESISTProject
- resist_project
- RESIST Project
- RESIST Project



Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA. Neither the European Union nor CINEA can be held responsible for them.



Natural Climate Solutions in Finland's Breadbasket

WRITER: JAKE THREADGOULD

Southwest Finland is taking a leaf from nature's book when it comes to building climate change resilience.



2

Southwest Finland has a water drainage problem, and it is being exacerbated by climate change. Contrary to marshy and lake-abundant interior and northern reaches of the nation, this region lacks natural water retention bodies, making it more prone to flooding and stormwater run-off during the increasingly mild and rainy winter seasons. Couple this with longer and more severe droughts in spring and summer, and you have a cocktail of climate challenges in natural, agricultural, and urban environments.

Farmers in Southwest Finland, known locally as the Varsinais-Suomi region, are among the most affected by the changing climate. Prolonged droughts

during growing periods and increased rain in the winter do not cancel each other out, but rather they combine to amplify hazards such as soil erosion and nutrient leaching, which in turn feed the eutrophication – an overabundance of nutrients – of natural bodies of water like the vulnerable Archipelago Sea, part of the Baltic Sea. These impacts are forcing local farmers to overhaul the way they work the land.

The nation's granary

Martti Hyssälä is one of those farmers. Now at the helm of his family farm in the municipality of Lieto, he is still learning to adapt to a climate

that is increasingly alien to that of his childhood. Stood in one of his wheat fields on a bright sunny day, he tells REVOLVE that it rained only twice in the local area in June 2023. “What I remember from my youth, back in the 1980s and 1990s, there used to be a constant rain at least, but nowadays, in the last six or seven years, the dry season has been longer and longer and with occasional rain only [...] The dry seasons are affecting us a lot more than they used to in my youth.”

To bolster his farmland against the threat of soil erosion, Hyssälä has turned to the use of winter crops, which help to bind the soil, lock in nutrients and create subterranean channels to

boost irrigation and root growth during the spring. He is also reducing his use of fertilizers and pesticides. “I am increasing the winter wheat and rye, so that the roots in the summertime will be deeper in the soil. I’m also trying to get more carbon into the fields, so I’m switching my fields of wheat with grassland and switching those grassland (fields) with my cousin, and I also get manure from the dairy cattle,” he says.

Around 26% of the land in Southwest Finland is used for agricultural purposes, according to the Natural Resources Institute Finland. As the nation’s breadbasket, climate solutions in the region are of national importance. Marita Rasimus – a third-generation farmer also in Lieto – has also noticed more severe spring droughts. She, too, has changed the kind of crops she sows.

“Compared to what was cultivated during my father’s time, there have been quite significant changes in many ways. Of course, from a climatic perspective, it is important to consider the types of crops being cultivated and there have been specific changes made at the variety level to adapt to these changes,” she says.

“Around 26% of the land in Southwest Finland is used for agricultural purposes, according to the Natural Resources Institute Finland.”

“The worst challenge in this region is the springtime dryness, which has necessitated changes in cultivation methods. Perhaps the most significant change has been the shift to no-till farming,” she continues, adding that she has also installed a settling pond on the farm to irrigate crops during dry periods.

How not to lose a plot

The effects of climate change are not confined to the rural areas of the region. Tuula Hannula is a member of the 4H gardening association and has cultivated a vegetable plot on the outskirts of Turku for 10 years. In that time, she has seen a lot of changes.

“I don’t know if it’s climate change or if the drainage area has increased – but a lot of stormwater comes here,” she says during an interview at her allotment, one of many acres of land leased out by Turku to its green-fingered residents. The drainage system of the vegetable plot area is characterized by man-made rain ditches, but this often proves to be insufficient.

“So, when there is heavy rain, this stormwater, it flows mostly through the ditches. The drains are not functioning properly, the water flows across the road and the fields are left underwater,” Hannula says. Like the farmers, she has also noticed the indicators of rising temperatures, including new species of butterflies buzzing around the plot.

A moment for watersheds

Aside from the economic and societal damage incurred by increased winter flooding and soil erosion in the region, one of the main reasons that finding climate solutions is to ensure the protection of the Archipelago Sea. Char-

acterized by thousands upon thousands of islands and islets, shallow waters and unique biospheres, the Archipelago Sea is highly vulnerable to eutrophication, which is exaggerated by increased rainfall and stormwater runoff.

Water flows are set to increase during the winter period in Southwest Finland, with more extreme rainfall and less permanent snowfall and ice, warns Piia Leskinen, Leader of Research in Water Engineering at the Turku University of Applied Sciences. Leskinen is contributing her expertise to the RESIST Project, an initiative co-funded by the EU that is supporting Southwest Finland in the testing

of climate resilience measures with a heavy emphasis on nature-based solutions (NBS).

“Climate change is seen as a major threat to the Archipelago Sea nutrient situation, because the high flows and precipitation during wintertime is expected to increase. And if we have less snow cover and it’s raining on bare land, and the vegetation is not binding the nutrients efficiently because it is not the growing period, then this will significantly increase the nutrient flows in the Archipelago Sea,” she tells REVOLVE in an interview.

Rain gardens

Nature-based solutions come in many shapes and sizes depending on the challenge at hand. Southwest Finland, a RESIST pilot region, is in need transformative solutions but they also need to be accessible, affordable and attractive for local municipalities and private landowners, Leskinen says.

“We don’t have space for very large solutions that would handle the flooding or surface waters of a large drainage basin. So, we need to have a lot of small-scale solutions and that means that they need to be very cheap, because whether it’s farmers of private land in the urban areas, they

“People like contributing to good things if it is easy.”

– Piia Leskinen, Turku University of Applied Sciences





4

don't want to spend major sums of money on investments. The maintenance must be sort of simple because nobody will be maintaining them on a regular basis.”

An NBS that works particularly well in tackling stormwater run-off and flooding in Turku and Southwest Finland is the humble rain garden, a tried and test measure that encourage the re-absorption of rainwater into the soil. Rain gardens can be planted with perennial plants that not only encourage biodiversity but also lift the aesthetics of their surroundings.

The benefits of rain gardens are well

established, but the challenge in implementing them wider in Southwest Finland often boils down to a lack of awareness among both public and private stakeholders, Leskinen says. To make them more accessible, RESIST will work with local garden shops to produce a catalogue of rain gardens directed at private citizens, businesses and landowners that will be much like browsing products online.

“One of the main problems as to why there are so few NBS in private properties is the uncertainty related to costs. If you have a stormwater cassette that's underground, then it's easy to define the costs, but with NBS then it's not.” ●



5

Connecting regions

The solutions being tested in Southwest Finland and Turku, a city that has won numerous international awards for its leadership on climate change, will be analyzed, quantified and transferred to other regions that are less experienced in climate adaptation as part of RESIST. The project brings together 12 regions with different socio-economic profiles and levels of climate preparedness.

Southwest Finland is among the four beacon regions, alongside Catalonia, in Spain, Central Portugal and Central Denmark. It is paired with Normandy in France and Eastern Macedonia in Greece, which face similar climate threats when it comes to sustainable water management and flooding. The RESIST Project is working with local authorities to harness science and technology in a bid to tackle climate change impacts on five fronts: floods, droughts, heatwaves, wildfires, and soil erosion.

NBS and digital twin technology sit at the core of the project, which is responding to the need of European regions to prepare for the effects of a changing climate in harmony with nature.

Is the EU Ready to Pedal Towards a Zero-Emissions Future?

WRITERS: THOMAS LYMES AND DANIELA BERRETTA

Breaking new ground, the European Commission recognizes cycling's pivotal role in shaping a cleaner, healthier future.



2

The European Commission (EC) broke the glass ceiling with its “European Declaration on Cycling”. On 4 October 2023, the EU executive body recognized travel by bike as a stand-alone and fully-fledged mode of transport, in a move bound to re-shape mobility in cities and beyond.

In a historic first, the EC provided rules and guidance to increase cycling uptake, encouraging tapping into this mode of transport to pursue the transition to emission-free mobility. The text “recognizes cycling as one of the most sustainable, accessible and inclusive, low-cost and healthy forms of transport and recreation, and its key importance for European society and the economy.”

With cyclists producing 84% less carbon emissions than car drivers, the European Declaration on Cycling is a much-awaited development to make the urban environment less polluted, and more liveable, and ramp up existing efforts.

The Declaration will now serve as a basis for inter-institutional discussions ahead of the adoption of a final version by the EC, the European Parliament, and the Council of the European Union. With the definitive document expected next year, now is the time for EU legislators to take bold steps and negotiate a text that boldly matches EU environmental ambitions.

- 1. Encouraging cycling helps the transition to emission-free mobility. Photo: Getty Images Signature
- 2. Cycling down a bicycle park in Amsterdam. Photo: Alice / Unsplash
- 3. Cyclists in Amsterdam. Photo: Norali Nayla / Unsplash
- 4. Family cycling in Amsterdam. Photo: Dana Marin / Unsplash
- 5. Cyclists in Amsterdam. Photo: Sam Te Kieffe / Unsplash

A success born in cities

For decades, municipalities have been at the forefront of the cycling revolution, taking action to foster cycling uptake and acquiring long-standing experience in this field.

In Paris, since 2018, annual cycling traffic surged by 166%, a record development propped up by 1,000 kilometres of bike lanes and ad hoc local funding.

In Copenhagen, one of the first municipalities to spearhead a cycling revolution in Europe, cargo bikes increased from 20,000 in 2020 to more than 40,000 in 2023. Residents of the Danish capital have eagerly em-

“[Cycling is] one of the most sustainable, accessible, and inclusive, low-cost, and healthy forms of transport and recreation.”

braced the opportunity to lower their carbon footprint: parents hop on cargo bikes to transport their children, delivery companies employ them to move food and parcels around town, and a growing number of construction companies are using cargo bikes to transport tools and materials.

In Brussels, the 2022 Good Move scheme to overhaul traffic in the inner city contributed to a record 36% increase in the number of cyclists in just two years. From Gdansk to Lyon, from Ljubljana to Madrid, more and more urban dwellers are swapping their cars for their bikes, powering a seismic shift in sustainable transport.

Over the past three years, an unlikely ally helped boosting cycling’s success across Europe: Covid-19. Safe distancing needs during the pandemic encouraged citizens to re-evaluate their approach to this old yet new form of transport. Since then, many have not gone back to their cars.

The way forward

However, a lot more is needed to cement this progress. In the EU-27, only 7.4% of the total number of trips are made by bike on average, data from the EU’s Joint Research Centre shows. Only a decisive, wide-ranging EU initiative will allow to increase cy-

cling share and buttress cities’ efforts. At the local level, an ambitious EU cycling framework will help urban leaders continue their sustainable journey, furthering biking growth and uptake in their territory.

This summer, in anticipation of the EC’s Declaration, a working group of Eurocities’ members decided to leverage their experience to inform the EU institutions’ final work on cycling. On 12 September 2023, the Eurocities group formulated the “Pedal-powered progress – Towards an EU cycling policy” policy paper containing a series of recommendations to the EU. The advice was also shaped by the results of a Eurocities Pulse survey on urban cycling that was conceived to understand local leaders’ challenges and expectations for the future.

In these, local leaders urged EU legislators to adopt a multifaceted approach to fully exploit cycling’s positive impact on people’s health, the environment, and the economy.

Among other suggestions, we recommend the EU support the development of a safe and high-quality bike infrastructure to prompt bicycle use. EU guidelines should set minimum quality levels for infrastructure while offering a certain degree of flexibility to adapt to the local context. Funding options at various governmental levels

“In Paris, annual cycling traffic surged by 166%.”

should be made available and, as emphasized by the Pulse cycling survey, a strong political will at the local level will be necessary to support a strong roll-out of local bike infrastructure.

Promoting a new cycling culture in Europe will also mean treating cyclists as a priority. Today, a lack of road safety is what stops many peo-

ple from even considering hopping on a bike. Municipalities’ empirical experience also shows that cycling uptake is higher when cyclists feel protected, as when they can ride on cycling lanes running separately from car traffic. However, national traffic laws in many EU countries currently hinder cycling, so Eurocities advises the EU to update national traffic rules

and encourage cooperation between local and national authorities.

This soul-searching process should include a reflection on the adequacy of national traffic rules for cycling and the adoption of a 30km/h speed limit in urban areas.

In this holistic approach, on-the-ground efforts will need to be matched by a cultural shift to increase cycling popularity across the continent. The EU should envision raising awareness about the benefits of cycling for all population groups and urge Member States to promote a cycling culture in their territory.

Cycling will need to become widely accessible to people, regardless of age, gender, ethnicity, or location - special attention should be directed to underserved population groups that cannot afford to buy a bike or



4



3

whose disability prevents them from using a standard two-wheeler.

The “Pedal-powered progress – Towards an EU cycling policy” policy paper also calls on the EU to help develop standardized tools for collecting cycling data, the lack of which is currently preventing many cities from making informed decisions. Urban mobility practitioners need to get a clear picture of all the dynamics

at play in their territory, such as the number of bike trips, the purposes of the trip, and the type of vehicles, to address perceived barriers to cycling.

The Declaration’s final version should also encourage the creation of common data standards and prompt private mobility operators – such as e-scooter and bike-sharing companies – to make their data available to cities for planning purposes.

“In Brussels, the 2022 Good Move scheme to overhaul traffic in the inner city contributed to a record 36% increase in the number of cyclists in just two years.”

As part of their recommendations, Eurocities' experts also exhort the EU to consider cycling a factor of sustainable economic growth that can create a flourishing European bike industry. The shortage of bikes and related services that many cities witnessed during the Covid-19 pandemic should no longer stand in the way of cycling's expansion. To reverse that trend, the creation of a strong EU cycling industry would bring positive repercussions on the local economy, including the creation of new jobs.

The policy paper additionally advises the EU to harness the power of increasing connections between cities and surrounding suburban and rural areas. In this system, cycling, public transport, and shared vehicles would work seamlessly together and complement each other. For example, travelers could reach a city's train station by bike, reach the countryside by de by train, and then rent a shared bike to reach their final destination.

Shaping the final Cycling Declaration

Some of these advices were already considered in the EC's Declaration. The EU executive body laid out an ambitious proposal on data collection: creating an EU-wide database to gauge progress on cycling infrastructure, as well as keeping track and measuring cycling-related injuries. The EC also recognized that more investment



5

in cycling is needed to fully unleash the potential of cycling in Europe.

However, the text should aim at doubling the number of cycled kilometers in the EU. The EC also fails to set specific targets and key performance indicators (KPIs) to assess the long-term impact of the Declaration, as it

has for electric cars or rail freight in previous EU strategies.

Co-legislators should also consider that monitoring the Declaration's implementation progress will be essential to keep the momentum. Failure to do that would considerably weaken the Declaration and inevitably relegate it to the next EC's dusty shelves. The EU should appoint a coordinator for active mobility to coordinate the Declaration's implementation.

Local leaders are eager to seize on this unprecedented opportunity to foster cycling's expansion and revolutionize the way people move around. Is the EU as determined to take decisive steps and be the standard-bearer of a new sustainable mobility culture, with cycling at its core? ●

“A strong political will at the local level will be necessary to support a strong roll-out of local bike infrastructure.”

Discover

The Future of Wind Power at the 5th Edition Windpower Data and Digital Innovation Forum.

The 5th Edition Windpower Data and Digital Innovation Forum is your gateway to the future of wind energy. This prestigious event will take place at Steingarten Hotel, Berlin. Germany on 5th - 6th March and promises to be an insightful exploration of the latest trends, innovations, and digital advancements in the wind power industry.

Why Attend?

- 1. Cutting-Edge Insights:** Gain invaluable knowledge from industry experts and thought leaders as they discuss the latest advancements in wind energy technology, data analytics, and digital innovation.
- 2. Networking Opportunities:** Connect with like-minded professionals, industry leaders, and potential collaborators to expand your network and foster new business relationships.
- 3. Technology Showcase:** Explore state-of-the-art solutions and innovations from leading companies at the exhibition area. Get hands-on with the latest products and services driving the wind energy sector forward.

Don't miss your chance to be part of this transformative event.

Join us at the 4th Edition Windpower Data and Digital Innovation Forum to shape the future of wind energy and drive innovation towards a cleaner, greener world.

For more details and registration, visit www.leadventgrp.com.



Building a Better Tomorrow: Sustainable Office Evolution

WRITERS: BELÉN G. CARMONA AND
RAPHAEL TSAVKKO GARCIA

Embarking on a sustainable journey, REVOLVE moves to Nordic Spaces guided by Relieve Furniture's eco-conscious approach, role in shaping a cleaner, healthier future.

In a strategic move, REVOLVE is re-locating to Nordic Spaces and has enlisted the expertise of Relieve Furniture to furnish the new office sustainably. Relieve Furniture Founder and CEO Jeremy Van Mullem and Project Manager Sarah Ribesse, as well as Nordic Spaces Managing Director Sonny Soewarta, sat down for an interview with REVOLVE to tell us more about sustainable office solutions and the history of the building.

Sonny Soewarta,
Managing Director,
Nordic Spaces NV/SA

Could you tell us about the history of the building and Nordic Spaces?

We are a Danish company called Nordic Spaces and our aim is to find places like this, which have historical value but also have a certain amount of coziness or ‘hygge’ as we say in Danish. We found this fantastic building made by the Belgian architect Victor Horta, and it is actually from 1896. The building was rebuilt a couple of times, but the facade is the original, the inside is not the original except for these doors we are very proud of.



2

But the history of Art Nouveau is very short, it only lasted for 10 years, and then it was taken over by industrialism. So, a lot of the buildings were demolished. One of Horta’s pupils, a man called Jean Delhayé became very successful and rich and he bought a lot of the Horta’s buildings in order to save them, and this is one of the ones he bought, and it’s now owned by his daughter, Anne Delhayé, and we’re very happy to have her here and to explain all sort of details and the history of the building.

REVOLVE decided to move into this Art Nouveau jewel, but also to do it in a sustainable way, hand in hand with Relieve Furniture.

Sarah Ribesse, Relieve
Furniture Project
Manager

What is your role and what kind of work have you been doing with REVOLVE?

I am helping architects and people who want to furnish their office spaces with sustainable furniture. I received a request from Stuart of REVOLVE, and he told me about your needs in terms of furniture, he sent me the floor plan of the spaces, and some pictures.

Then I went on site to see a bit the space, to feel a bit the space, and

then to listen to your needs, and then depending on the furniture I have on the marketplace of Relieve and depending on the furniture that I know that will come in, I match your needs, the needs of REVOLVE in terms of furniture and the material, the furniture that we have available and also upcoming.

It is super cool to be able to give a second life to all that furniture that is supposed to go to the container park, unfortunately. It is super cool to see this furniture live a second time in a new office space, and you can do super cool projects with second-hand or pre-loved furniture because we do not like to always say second hand, we prefer

to say pre-loved furniture, because it has a more positive connotation.

Sometimes you need to empty a specific space before a deadline and then you need to relocate all that furniture within a short amount of time. How does it work in terms of timing when you are the receiver?

In this case, we will depend on if there is a big donor delivering something soon or around the day that we are moving. That is a big part of my job, to match the moment when we receive the furniture and the moment that REVOLVE needs it.

- 1. Nordic Spaces building. Photo: Raphael Tsavkko Garcia / REVOLVE
- 2. Relieve Furniture's showroom in Brussels. Photo: Raphael Tsavkko Garcia / REVOLVE
- 3. Interview with Sarah Ribesse. Photo: Raphael Tsavkko Garcia / REVOLVE
- 4. Interview with Jeremy Van Mullen. Photo: Raphael Tsavkko Garcia / REVOLVE
- 5. Interview with Sonny Soewarta. Photo: Raphael Tsavkko Garcia / REVOLVE

“It is super cool to be able to give a second life to all that furniture that is supposed to go to the container park, unfortunately.”

“We do not like to always say second hand, we prefer to say pre-loved furniture, because it has a more positive connotation.”

Have you noticed a change in the mindset of companies that really want to be more sustainable and make this part of their job more sustainable?

You really feel that there is a demand coming from the clients or the architects’ studios, and there is a rising demand from the end client. So, we are working with architects’ studios, they have their clients, and the demand is coming from their clients.

Jeremy Van Mullem,
Relieve Furniture
Founder / CEO

What is Relieve Furniture?

Relieve Furniture is originally a solution to help big companies to give a second life to their office furniture when they move.

We started a couple of years ago because we found out that in Europe there are about 42,000,000 items being discarded and sent to landfill and 90% of it is incinerated. We found it an obligation to start sorting it out and find a great solution to help facilities managers when they start moving.

Also, what is behind this number is that many facilities managers are assigned to leave a building and do not have a sustainable solution. They need to find a way to pay as little as possible and most of the time it is the landfill because it is pretty simple, everything is taken in one shot and put somewhere where they do not really know, and they just close their eyes, and they do not really bother around what is next. So, the idea also is to try to educate the market and try to bring some information to the facilities managers and offer a simple and really efficient solution.



3



4

Could you explain your green removal methods?

When you compare it to a classic moving company, the furniture is being destroyed, so you do not save any CO2, you have a double problem. You destroy the item that is still in good state, and for a potential buyer, the buyer will buy new instead of second-hand, because they usually do not find the batch they are looking for.

The DNA of Relieve Furniture is based on the impact and to rehouse as much furniture as possible to make our planet greener. It is quite obvious to keep this office furniture as long as possible on the market, and to reuse it especially because good furniture has many lives.

What is your business model?

We try to find the best benefits for each party. What we set up is a win-win situation for the donor, Re-

lieve Furniture, and the beneficiaries. Through a process what we say is that we work on donations, and we resell it at a symbolic price.

How can consumers or investors effectively evaluate whether a company’s environmental claims are genuine or potentially greenwashing?

The big advantage of our concept is that you see directly that companies act by giving it a second life. You see

that it goes from the company to a beneficiary, so you see the end results straight away.

We partnered with a company called Tapio, which is a company that assesses the activity of the company and gives carbon reports, and we could have a full tracking of how much CO2 we save by giving a second life to a chair, to a desk, to an armrest. We could monitor that and at the end of the campaign, a donor will receive this full carbon report.

“There are about 42,000,000 items being discarded and sent to landfill and 90% of it is incinerated.”



5

Have you experienced an increase in companies' circular awareness?

I think there is a wake-up call. We see this especially in a corporate community where we have more and more donation requests from big companies, as much as from SMEs. I think people are not really allowed anymore just to throw away and just to

incinerate items. I think people are much more mindful and take care of our planet and by definition, they will start looking for a sustainable solution when they need to make big moves.

From a buyer perspective, we see more engagement from architects' studios, as well as either from their own initiative but also from the client's initiative.

I would say the dream, and it is coming true now, is that big companies that were supposed to be donors become buyers as well. We have big companies that have contacted us, and they wanted to embrace this transition by buying secondhand before buying new, that is a nice sign from the markets, and I hope it is going to become the future and not a trend. ●

“The big advantage of our concept is that you see directly that companies act by giving it a second life.”



Join Planet REVOLVE!

As a non-profit organization, REVOLVE is opening its activities to you.

Become a Member today!

- 1. Support independent journalism
- 2. Access to sustainability workshops
- 3. Participate in more events
- 4. Receive monthly updates
- 5. Get our quarterly magazine

 revolve.media



CIRAWA

**Agroecological Solutions for
Resilient Farming in West Africa**

CIRAWA is working with small-holder farmers in West Africa to improve food nutrition, local livelihoods, and ecosystem health.

Bringing together 14 partners from 9 countries, CIRAWA is developing new agroecological-based practices that build on existing local and scientific knowledge to create more resilient food supply chains in 8 regions across Cape Verde, Ghana, Senegal, and The Gambia.

www.cirawa.eu



@CIRAWAproject



/cirawa



CIRAWA



Funded by
the European Union