BNP PARIBAS
The bank for a changing world

PERSPECTIVES

Experts' views on the green and social transition

Trimestrial - issue 11 - november - 2024 | *fresh water*

A worrying acceleration of the water cycle

by **Emma Haziza,** Doctor in hydrology at the Ecole des Mines de Paris and Member of the UNICEF Scientific Council

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As drought and flood risks grow, our society and the economic world must confront numerous challenges associated with water.

The water cycle is clearly accelerating, by around 7% per degree of average temperature. As the atmosphere warms, it can consequently absorb more water, drawn from the soil by evaporation.

This phenomenon brings a number of damaging impacts. Firstly, water vapour is a greenhouse gas, further contributing to climate change. Secondly, increased evaporation leads to more droughts, in more arid zones and in traditionally less vulnerable regions.

Lastly, the water vapour accumulating in the atmosphere falls back as rain: this is more intense if the atmosphere has more water vapour. More intense rainfall leads to more water runoff, which raises the risk of flooding. As a result, the risk of major floods rises, as we have observed worldwide this year, affecting the replenishment of underground reserves. Water runs off into rivers and ends up in the sea.

Given the triple risk of drought, flooding and water shortages, the cost of insurance may well become difficult to manage. Action is therefore essential, as water has tended to lag behind in environmental policies, despite it playing a vital role in climate mechanisms and biodiversity preservation. Besides reducing CO_2 emissions, the first priority should be to implement solutions to limit the damage caused by flooding. The second priority is to protect resources, by reducing our water consumption and encouraging water to percolate down to the groundwater table. The third is to improve water quality. In France alone, a thousand water catchments cannot be used due to agricultural or industrial practices.

In order to accelerate this transition, the banking sector has a key role to play. This involves raising clients' awareness about water-linked risks and financing the required adaptation measures.

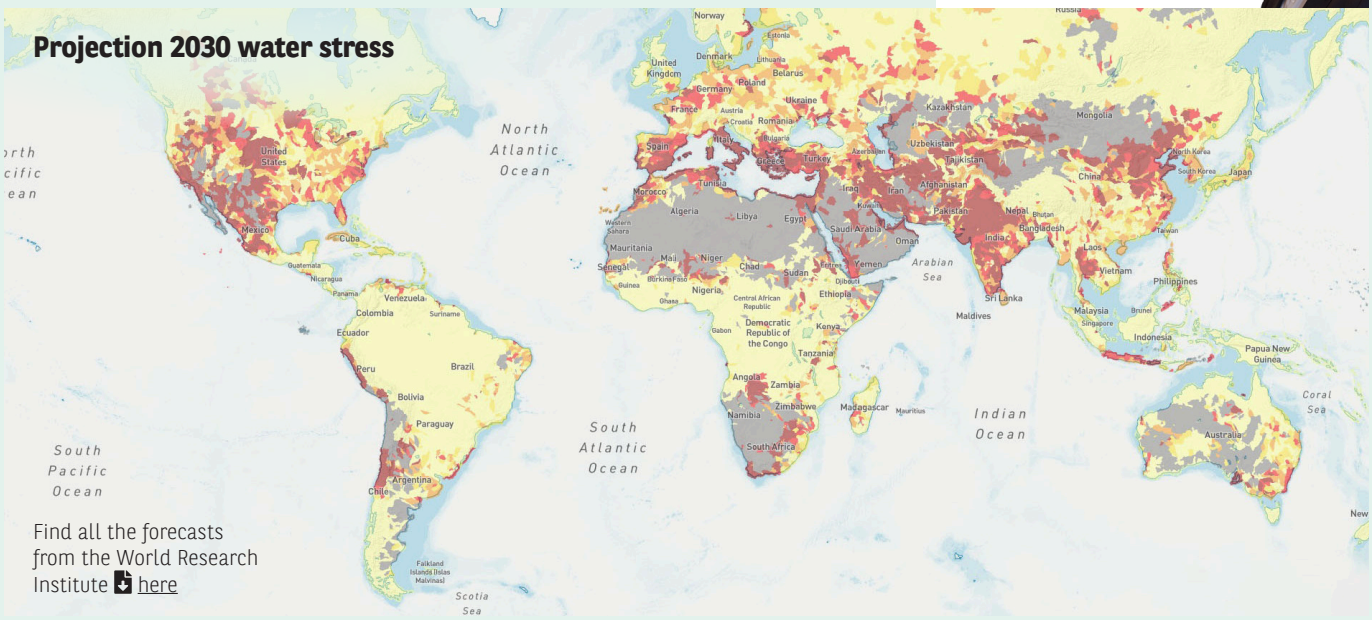
OUR SOCIETY FACING THE SUSTAINABLE WATER CHALLENGE

A key challenge for society is the ability to access water of sufficient quantity and quality. Climate change makes this challenge even tougher.

According to the OECD, it costs over $1,000 billion every year to achieve the UN's SDG 6, which aims to ensure access to water for all. That is equal to 1.21% of global GDP. This is more than just a technical issue, as the biggest challenges are societal rather than being related to technology (e.g. reducing leaks, depollution, reuse, as well as sea water desalination, which has a lower impact, etc.). What is the right level of water use and fair sharing of the resource between users from a conservation viewpoint, prioritising uses based on local water stress?

What practical changes are necessary and under what conditions (e.g. the health restrictions that apply to the reuse of wastewater)? Above all, how can we convince consumers, individuals, farmers and companies that managing fresh water – which is sustainable, healthy and fair – comes at a cost that we must be prepared to pay and to share fairly?

Sébastien Soleille, *Global Head of Energy Transition and Environment, BNP Paribas*



Source: Aqueduct World Research Institute

What's at stake

A resource with multiple "values"

Vital for our life and economy, water is the focus of many challenges. To fully appreciate this, we first need to better understand our water footprint.

A common good and a fundamental right

by **Guillaume Poupy,**
Energy Transition and Climate,
CSR Group, BNP Paribas

Fresh water is vital for the functioning of animals and plants, ecosystems and organisations. Here, a useful conceptual framework can be found in the different "values" of water – as a human right, an economic asset, an essential element of ecosystems and a natural risk factor.

First of all, water is a human right. In 2010, the UN recognised "access to safe and clean drinking water and sanitation facilities" as a human right that is "essential for the full enjoyment of life and all human rights". Water is central to the sixth Sustainable Development Goal: ensuring access for all to sustainably managed water services and sanitation.

Water is also a crucial asset for economic activities, starting with agriculture, which accounts for 72% of withdrawals. Industry represents around 10% and the energy sector, which is equally important for the economy, is approximately 5%. Water and energy are highly interlinked: water is essential for producing electricity and hydrocarbons, and energy is needed to purify and transport water.

Moreover, water is key for ecosystem functioning and all forms of life. Aquatic ecosystems – for instance, wetlands, lakes, rivers, etc. – are among the richest in biodiversity, but they are the most vulnerable to human activity such as aridification and pollution.

Lastly, fresh water is at the core of natural risks, including floods, droughts, storms and wildfires. According to UNEP, over 90% of natural disasters are related to water.

Recognising our water footprint

by **Aymeric Olibet,** Low-Carbon & Sustainable Transition, MidCaps & SMEs, BNP Paribas

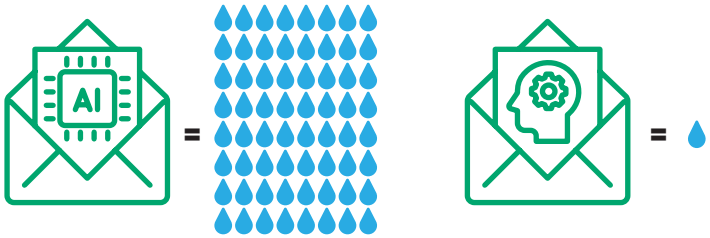
The climate crisis is an established fact, but water challenges are still largely underestimated and poorly understood.

Although a person physically needs no more than 2 litres of water a day, our hygiene routines require far more 'blue gold': between 5 and 10 litres per toilet flush, and from 50 to 100 litres for a shower. In total, our domestic consumption is estimated to be around 140 litres per day, with geographical variations depending on lifestyles. This is a substantial amount of water globally, given a population of over 8 billion people. Yet this is actually only a fraction of our water consumption.

When we put on a pair of jeans in the morning, do we realise that possibly up to 11,000 litres of water were needed to make them? And when we make ourselves a cup of coffee, are we aware that is the same as 'virtually' consuming around 140 litres of water? And what about the water costs of exchanging dozens of emails every day or our generative AI requests? Virtual water is a fairly new concept, but it can be crucial when we try to understand water issues holistically. The concept covers all the water consumption necessary for a product or a service. Much like a carbon footprint, it enables people to calculate their water footprint.

Climate change is accelerating the water cycle and negatively impacting available resources. So a better understanding of water issues and real consumption levels can encourage both individuals and companies to use water more economically.

The water footprint of AI use in work environments



Sending a 100-word email **generated by a chatbot using GPT-4** requires
519 millilitres of water.

Sending a 100-word email **written without AI assistance** requires
8 millilitres of water.

Sources: *A bottle of water per email: the hidden environmental costs of using AI chatbots*, 2024, Pranshu Verma and Shelly Tan; *The Water Footprint of Data Centers, Sustainability* (MDPI), 2015, Ristic B, Madani K and Makuch Z.

Regulatory watch

Water governance is based on standards and regulations

Green laws are increasingly including water issues, a clear sign that the challenges around water stress are better understood today.

Helping set global standards in water stewardship

by **Samantha Kuzma,** Aqueduct Data Lead

Water is a natural resource, yet we often treat it as unlimited. The reality is that many regions are using more water than is replenished. This "water stress" – where more than 40% of a region's available water supply is used to meet demand – makes communities vulnerable to droughts and other shocks, risking higher costs for imported water or service cutoffs.

The Aqueduct Platform, developed by the World Resources Institute (WRI), plays a key role in confronting this challenge. It translates advanced scientific information into easy-to-use tools, turning complex academic research on water supply and demand into easily digestible data. Aqueduct helps businesses identify high-risk areas and prioritise their efforts toward sustainability by offering free and open access to indicators of water scarcity.

Aqueduct's data is sourced from the l PCR-GLOBWB 2 global hydrological model, developed by the University of Utrecht. This model integrates historical climate data and satellite information to map long-term water supply and demand, dynamically simulating water movement on a global scale, using data spanning from 1960 to 2019 to analyse long-term water trends. By incorporating satellite climate records, digital elevation models and global soil maps, Aqueduct ensures its data is both comprehensive and consistent across regions. In this way, we provide a foundation for companies with global value chains to engage in effective water stewardship, rather than real-time monitoring.

> "AQUEDUCT HELPS BUSINESSES IDENTIFY HIGH-RISK AREAS AND PRIORITISE THEIR EFFORTS TOWARD SUSTAINABILITY BY OFFERING FREE ACCESS TO INDICATORS OF WATER SCARCITY."

We are also helping to set global standards in water stewardship, driving innovation and shaping frameworks like the EU's Corporate Sustainability Reporting Directive. Corporations are then better equipped to set science-based water targets, improve their operations and scale up efforts to tackle water challenges worldwide.

As water scarcity intensifies, these type of tools are critical for navigating the complexities of sustainable water management. By leveraging data, businesses can not only safeguard their operations but also play a crucial role in fostering healthier water systems for the communities they depend on.

Evolution of water regulation

by **BNP Paribas CIB Sustainability Office, Marie d'Argentré,** Head of ESG Data & Transformation and **Jean-Elie Dumas,** Project Manager

2000

- European Parliament and the European Council adopt the Water Framework Directive (WFD), which establishes a benchmark for protecting inland, transitional and coastal surface waters as well as groundwaters. The WFD has been the main law for water protection in Europe since then.

2015

- Adoption of the Sustainable Development Goals (SDGs) by all United Nations members, with one goal dedicated to water (SDG 6).
- Paris Agreement.

2020

- EU green taxonomy enters into force, establishing a common classification system for economic activities that can be considered environmentally sustainable, and includes the use and protection of water and marine resources.

2021

- Sustainable Financial Disclosure Regulation (SFDR) requires financial institutions to disclose information on their sustainability-related risks and impacts, including the notion of Principal Adverse Impact (PAI), one of whose mandatory indicators concerns water consumption (PAI 8).

2022

- Publication of the Corporate Sustainability Reporting Directive (CSRD), which aims to gradually require companies to publish information on their risks, opportunities and impacts on people and the environment.

2023

- Adoption of the European Sustainability Reporting Standards (ESRS) for companies subject to the CSRD.
- Taskforce on Nature-related Financial Disclosures (TNFD) publishes 14 voluntary recommended nature-related disclosures, and includes several points on sourcing and water pollution.
- Publication of the first science-based targets for nature by the Science Based Targets Network (SBTN).

2025

- First CSRD reports expected for EU companies already subject to the NFRD, the forerunner of the CSRD.
- ESRS E3 focuses on water and marine metrics.

Industries in depth

Saving water is a multisectoral priority

A key aspect of the sustainable transition, the challenge of better managing freshwater resources is an issue for every type of sector, from agriculture to data centers.

Water resources are shaping the agri-food sector

by **Sarah Colombie,**
Food and Agri Expert, CSR Group,
BNP Paribas

To cope with climate change impacts, the agri-food sector must strive to take into account its dependence on water.

Around 70% of the global freshwater abstracted from rivers, lakes and aquifers is used for agriculture. This is an important figure, but we should remember that 80% of the total land used by the sector is not irrigated, as rainfall covers water needs.

Nevertheless, the agri-food chain is highly dependent on water. A processing plant needs water resources of a sufficient quantity and quality for itself, as well as to guarantee the sustainability of farms within its local supply area.

Before any investments in food-processing facilities, an agri-food company must therefore ensure that water resources will be sustainable. They can call on maps like Aqueduct, which offer graphical views of water resources and the impact of various climate scenarios.

Warming increases evaporation, leading to a rise in global precipitation – but with a different geographical distribution and an increase in hazards. This causes more severe droughts, resulting in land use conflicts as well as more intense precipitation, which in turn exacerbates soil erosion.

Consequently, managing water resources is a major issue at territorial level. This is especially the case when the aim is to maintain diversified and profitable production while respecting different uses, such as drinking water, which still takes priority.

Regenerative agriculture practices can be beneficial here, as highlighted in the comprehensive studies done by AgEvidence. In the American Midwest, winter soil cover reduces erosion by 60%, while limited ploughing reduces runoff by 9% (improving water retention in soils) and nitrogen losses, which affect the water quality, by 29%. Agriculture will only be able to continue feeding the planet if water resource management is integrated at sector, land plot and regional levels.

> "IN THE AMERICAN MIDWEST, WINTER SOIL COVER REDUCES EROSION BY 60%, WHILE LIMITED PLOUGHING REDUCES RUNOFF BY 9% AND NITROGEN LOSSES BY 29%."

Conserving water resources is vital for the mining industry's future

by **Jacky Prudhomme,**
Mining Expert, CSR Group,
BNP Paribas

As a major consumer of water, the mining sector must adopt a more conservative approach in this area, if it wants to contribute sustainably to achieving the energy transition's objectives.

Within industry as a whole, the mining sector is one of the main users of water. Its substantial consumption reflects the essential role played by water in the sector: water is used to separate minerals from rock during extraction, to cool machines and to prevent dust from spreading.

From the perspective of the larger economy, mines only represent a few percent of global demand for water. But at a local scale, societal tensions are already evident and these are sure to increase in future. By some estimates, we will need to extract as many metals in the next 30 years as has already been done throughout human history, in order to provide the raw materials necessary for technologies linked to the energy transition such as batteries, wind turbines, solar panels, etc.

This means we must prepare for greater use of water over the next three decades. The World Resources Institute (WRI) estimates that 16% of the metal deposits and mines required for the transition – nickel, cobalt, lithium, etc. – are located in areas already facing high levels of water stress. Yet it is in these areas that agriculture, industry and homes already use up almost all the water available.

Conserving water resources has therefore become a priority for mining companies keen to ensure their business model's sustainability. The International Council on Mining and Metals (ICMM) has developed the Water Stewardship Framework, which outlines ways its member companies can identify risks. This framework covers mining and the risks of contamination by toxic substances from mine waste or during minerals processing.

The ICMM also publishes good practice guides to foster better cooperation with local stakeholders. Moreover, it has made water reporting mandatory for its members. This innovation could also have significant results, for instance in lithium mining. New techniques, which can be likened to large sponges, now enable lithium to be captured from brines in river flow systems with higher yields, or in salt deserts, or salars, without evaporation. This is a genuine revolution.

Branches, offices, data centres: a targeted approach to limit water consumption

by **Ikram Benyahya,**
Green Buildings Programme Manager at BNP Paribas IMEX

In charge of managing BNP Paribas' real estate, the IMEX division is responsible for the portfolio of properties used by the bank. They include office buildings, bank branches and data centres. To improve performance in the main transition fields, i.e. energy, water consumption, the circular economy and sustainable mobility, IMEX launched the Green Buildings programme.

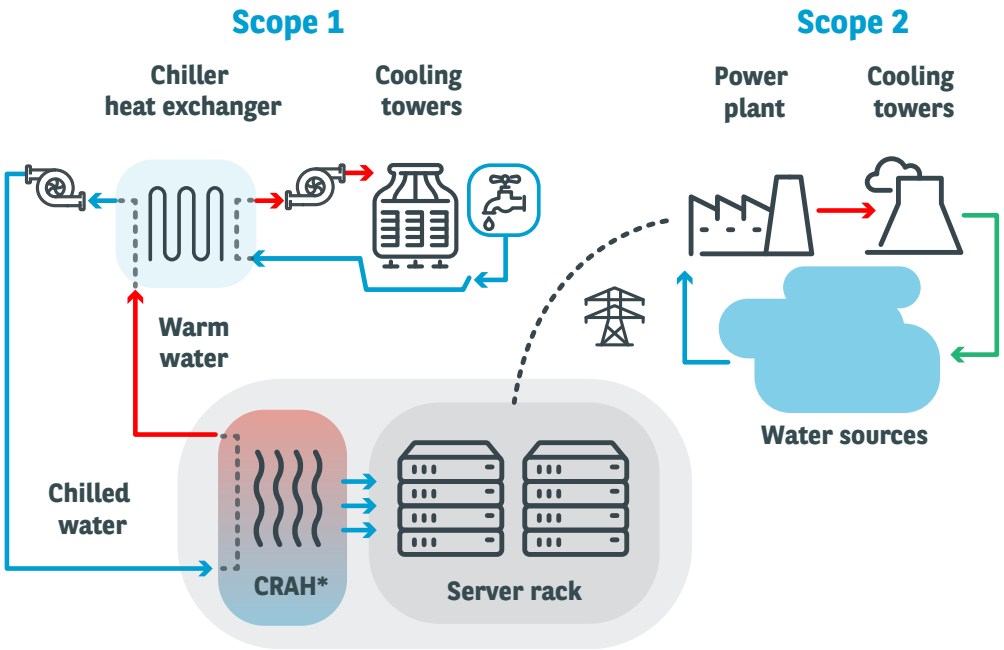
The solutions proposed by Green Buildings for water consumption are adapted to the type of property. According to the data held by IDET, water consumption in BNP Paribas offices and branches is 28L per day per occupant. IMEX went a step further, by installing meters in a sample of buildings in its real estate portfolio. This helped to pin down the largest consumption areas. Bathrooms (75%) and staff canteens (15%) use the most water. The other 10% comprised other uses, for instance, green spaces and showers.

For the offices and branches, solutions were implemented by calling on equipment that enables water savings such as dual-flush toilets and tap aerators. Lost-water air conditioning systems were also removed and rainwater harvesting systems installed in a number of buildings, so that this water could be reused in the fittings required to operate bathrooms and green spaces.

Most of the data centres make use of adiabatic cooling or water evaporation solutions, which require significant water. The bank data centres in IMEX's real estate portfolio have been eco-designed and use highly water-efficient systems. These 'freecooling' or freechilling systems use outdoor air or equipment with closed-circuit fluid coolers to cool the IT rooms. Other solutions are also being studied, such as the circulation of a cooling liquid close to the hottest electronic components (direct liquid cooling).

Lastly, water consumption can be accurately monitored by installing sub-meters. These meters also support 'water tracking' operations, which are also crucial for detecting leaks and which can make up a significant part of water consumption. Property occupants should also be encouraged to declare these water leaks, as soon as they find one.

Digital and water footprint: strongly interdependent at all levels



Source: *Shaolei Ren, How much water does AI consume?*, OECD AI Policy Observatory, 2023

*computer room air handler

The IT sector consumes huge amounts of fresh water, especially for data centres. The energy consumption of their servers generates a great deal of heat. This heat must be dissipated through cooling towers and/or outside air, a process requiring large quantities of fresh water (scope 1). Water is also consumed during the production of this electricity, notably through cooling at power plants (scope 2). Lastly, the water footprint of artificial intelligence models, such as ChatGPT, encompasses a third key perimeter and a large consumer of water: mining (see article).

Innovation watch

Innovations inspired by nature

With water resources under pressure, nature-based solutions can complement traditional technologies and contribute to tackling various local challenges.

Oneka offers sustainable and affordable desalination solutions

by **Alain-Olivier Desbois,**
Chief Finance and Impact Officer
at Oneka Technologies

A nature-based mechanical process enables the sustainable desalination of seawater.

In a world with limited freshwater resources, sustainable desalination of seawater can benefit communities and coastal industries. However, traditional methods require significant energy and create considerable pollution. Oneka Technologies offers a mechanical solution, with the energy required for the water pump coming solely from the rise and fall of waves. The seawater is pressurised, filtered and desalinated through a process of reverse osmosis.

Built around floating buoys that are anchored to the seabed, this innovative and modular solution generates no greenhouse gases. It also allows communities to limit the impact of climate change on their daily lives. Oneka can add buoys to the network, if its clients' water needs increase.

Designed to operate in synergy with marine ecosystems, Oneka's solution pumps the fresh water that is produced towards the coast. The resulting brine, which is less salty than that generated by conventional systems, is released into the sea and quickly diluted. The water intakes on the buoys feature a fine mesh of 60 microns, with a minimal impact on marine life. Oneka measures its impacts and is planning to include its indicators in blue bonds that could shortly be issued to fund projects.

> "ONEKA MEASURES ITS IMPACTS AND IS PLANNING TO INCLUDE ITS INDICATORS IN BLUE BONDS THAT COULD SHORTLY BE ISSUED TO FUND PROJECTS."

The company, now 10 years old, is setting up its first commercial projects. It is focused on markets facing high prices for energy and water, and which are located in coastal zones where wave conditions are sufficient for optimum performance.

Click here to learn more about how Oneka's technology works.

An innovation-focused approach for water managers

by **Geneviève Leboucher,**
Senior Vice President –
Municipal Water at Veolia

Water service companies call on a wide range of solutions to achieve their three objectives: protecting communities' health and purchasing power as well as the environment.

For over 170 years, Veolia's history has been marked by addressing health challenges and pioneering innovations. Nowadays, the biggest of these revolve around chemical pollutants such as PFAS (per- and polyfluoroalkyl substances) or antibiotic and pesticide residues.

The main problem is the composition of these molecules and their concentrations. For example, for PFAS, the challenge is as small as a drop of water in an Olympic-size swimming pool. Veolia can call on tried-and-tested solutions from some 30 drinking water treatment plants in the United States, where regulations are the most stringent.

Solutions of this kind need investments, which entail higher costs that consumers seem ready to pay according to a barometer conducted by Elabe in 26 countries. More than two-thirds of those surveyed are ready to pay a little more for a product that is better for their health.

However, water must remain affordable and be fairly priced. Veolia's activities are therefore focused on prioritising issues and adapting them to local conditions, by working side by side with local communities. The goal is to implement a strategy that is both tailored and adapted to an area's resources.

Moreover, protecting and regenerating resources is a major challenge, given the acceleration of the water cycle. Consumers are well aware of this, with 79% saying they are prepared to consume fruit and vegetables from farms using recycled water.

Veolia has therefore pledged to save 1.5 billion m³ of water by 2027, in order to regenerate resources. This will mainly be achieved by reducing waste and losses in distribution networks, as well as through contractual innovations such as a water efficiency commitment in Lille and adaptive pricing in Toulouse.

To cope with excess water, Veolia can for example make use of Hubgrade. This solution enables the dynamic management of storage capacities, in order to limit the risk of flooding and overflows.

More extensive, nature-based solutions are also being developed, complementing traditional infrastructures. In Beijing, a wetland area has been created close to a petrochemical site, contributing to water conservation and offering a refuge for many bird species. In Alicante, an urban park has been created to harvest excess or intense rainfall; the park also limits flooding and provides a cooling island in summer.

Our clients commit

Financing the blue economy

The investments needed to better manage water resources call for adapted financing instruments and sector-specific solutions.

Boosting blue finance

Considered as a specific type of green finance by the ICMA, blue bonds enable companies to fund key projects that protect water resources and tackle the impact of climate change.

by **Emilie Siebenborn** and **Justine Olivier,** Structurers, Sustainable Capital Markets – EMEA, BNP Paribas

Saur, a leading water actor, has become the first company to issue benchmark blue bonds to the public with the support of BNP Paribas CIB. Issued mid-October, valued at €550m and maturing in 2029, the issue attracted strong interest, with demand more than three times greater than supply. These funds will enable Saur to support a range of initiatives that are linked to the production and distribution of water, the collection and treatment of wastewater, and the desalination of seawater using technologies aimed at minimising environmental impact, etc.

> "THE ISSUE ATTRACTED STRONG INTEREST, WITH DEMAND MORE THAN THREE TIMES GREATER THAN SUPPLY."

Blue bonds are also very much in demand with investors. According to a recent study conducted by BNP Paribas Greenwich, 23% of thematic investors rank water among their priorities, just after the energy transition.

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by **Matthew Hewitt** and **Gemma Bedford,** Structurers, Sustainable Capital Markets – EMEA, BNP Paribas

Pennon is a leading clean water and wastewater services company in the UK, serving 3.5 million consumers. The group was the first European water company to expand its Sustainable Financing Framework (SFF) to explicitly include blue financing instruments. A decision linked to an expected increase in funding of projects related to climate change mitigation and adaptation, biodiversity conservation, as well as pollution prevention and control.

Leveraging the new guidance on bonds to finance the sustainable blue economy, issued by ICMA and others, BNP Paribas identified Pennon as a strong candidate to issue blue bonds. This was thanks to Pennon's activities as well as the group's coastal proximity, no more than 50 km from the sea in south-west England.

Pennon's blue activities range from wastewater treatment to restoration of wetlands, making discrete categorisation difficult. Thanks to its collaboration with BNP Paribas, which acted as sole ESG structuring advisor, the group was able to update its SFF, which aligns with best market practice and is fit to support the significant increase in funding required until 2030.

After a positive second-party opinion from DNV, the Pennon subsidiary South West Water issued its inaugural green bond in July 2024, with BNP Paribas acting as joint bookrunner. Following solid investor demand, this bond was upsized to a 17-year £400m transaction.

Water loss in buildings, an overlooked problem

by **Gregoire de Hemptinne,** Co-founder and CEO, Shayp

The building sector is responsible for 70% of distribution water consumption, much of which is unfortunately lost. While distribution networks are often at fault, losses in buildings are also enormous, accounting for 20% of water consumption.

The impact of water loss in buildings is amplified by tardy responses: 95% of the problems are only reported and repaired after months. Yet many of these problems are relatively easy to detect, as the main water losses in buildings are caused by malfunctioning toilets, poorly adjusted softeners or other automatic systems, taps left open, and overflowing tanks or storage reservoirs. One could also add a host of hidden problems, such as leaky pipes and defective technical valves.

Whatever their origin, these problems can lead to damage in buildings and much higher water bills. In other words, any investment in monitoring technologies for water consumption, and above all fault detection, is a question of sound property and financial management.

Shayp offers a water leak detection solution based on smart sensors and AI. This solution has already helped to save more than 18 billion litres of water and is fitted in a number of renowned locations across Europe, among them the Paris Saint-Germain football stadium, hospitals in Geneva, the Manneken Pis statue in Brussels, and Toulon University, as well as many residential buildings.

Flashforward

A range of practical solutions to protect water

Resource asset management, ecosystem restoration and water risk modelling: approaches to water conservation are emerging from all sides.

Measuring the water footprint of investment portfolios

by **Lise Tanfin,**
ESG Analyst at BNP Paribas Asset Management

The financial sector's engagement complements the work of public authorities. Asset managers can call on a number of tools to address the challenges facing water resources. In recent years, they have backed the launch of funds that focus on companies offering solutions in this field or which include various criteria on water management practices in their ESG approaches.

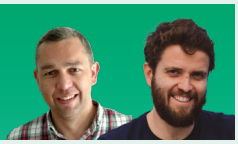
These managers have supported the drafting of public policies aimed at compelling companies to publish figures linked to their water consumption, in much the same way as for carbon emissions. If more data of this kind becomes available, asset managers will be better prepared to take into consideration the challenges associated with water in their investment decisions. Asset managers are also implementing methodologies to measure the water footprint of their portfolios and have established targets to reduce its impact.

At BNP Paribas, we measured the water footprint of our investments for the first time in 2021 and we are now updating this study. For instance, we concluded that only 30% of the companies in which we have investments publish data about their water consumption and only 17% report information about their exposure to water stress. Droughts are not the only aspect that must be considered. A city like London, for example, is a stress zone because it needs a great deal of fresh water yet it has few resources in this area.

There is still too little public investment, whereas access to water is a crucial issue that affects social inequality. Private investors therefore clearly have a role to play in strengthening investments and channelling financial resources into infrastructure maintenance and new technologies in the water sector.

Restoring freshwater ecosystems through biodiversity data

by **Neil Cox,** Manager IUCN-CI Biodiversity Assessment Unit and **Benjamin Barca,** Sales Manager Conservation and Impact Lead, NatureMetrics



The NatureMetrics and IUCN eBioAtlas programme tackles freshwater biodiversity loss using cutting-edge environmental DNA (eDNA) technology to identify species and assess ecosystem health.

Freshwater species populations have dropped by 85% since 1970, according to the Living Planet Report 2024, highlighting the urgent need for restoration efforts. The eBioAtlas programme collects species data from water samples, creating vital benchmarks for ecosystem recovery. This data-driven approach supports preservation and restoration, guiding more informed decisions in sustainable development.

For foundations, the potential outcome of backing such programmes is significant, making a direct contribution to improving biodiversity impact monitoring. The BNP Paribas Foundation, for instance, is already spearheading efforts in Cambodia.

The eBioAtlas programme's impact is timely, against the backdrop of COP16, offering tools to track Global Biodiversity Framework targets and ensuring the protection of critical freshwater resources for future generations.

Follow the latest news on the BNP Paribas Foundation and learn about future calls for projects here.

Kræken models hydraulic flows in complex environments

by **Priscille Béguin,**
CEO of Kræken

Kræken was selected for BNP Paribas' B!Up Explore programme, with the goal of accelerating its development by collaborating with the various group businesses. The project will enable Kræken to test its products and to understand what its clients are seeking. Most of these clients are active in the financial sector.

Kraeken generates flood risk data based on topographic surveys and takes into account various climate change scenarios. This technology was developed over a period of 10 years by academic researchers to model hydraulic flows in complex environments. It can assess which buildings will be affected in the event of flooding and to what extent.

Thanks to this model, detailed risk indicators can be developed for a given region, which in turn can be used to calculate insurance premiums or to grant loans. These indicators also support the implementation of various climate change adaptation strategies.

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