NOW & NEXT

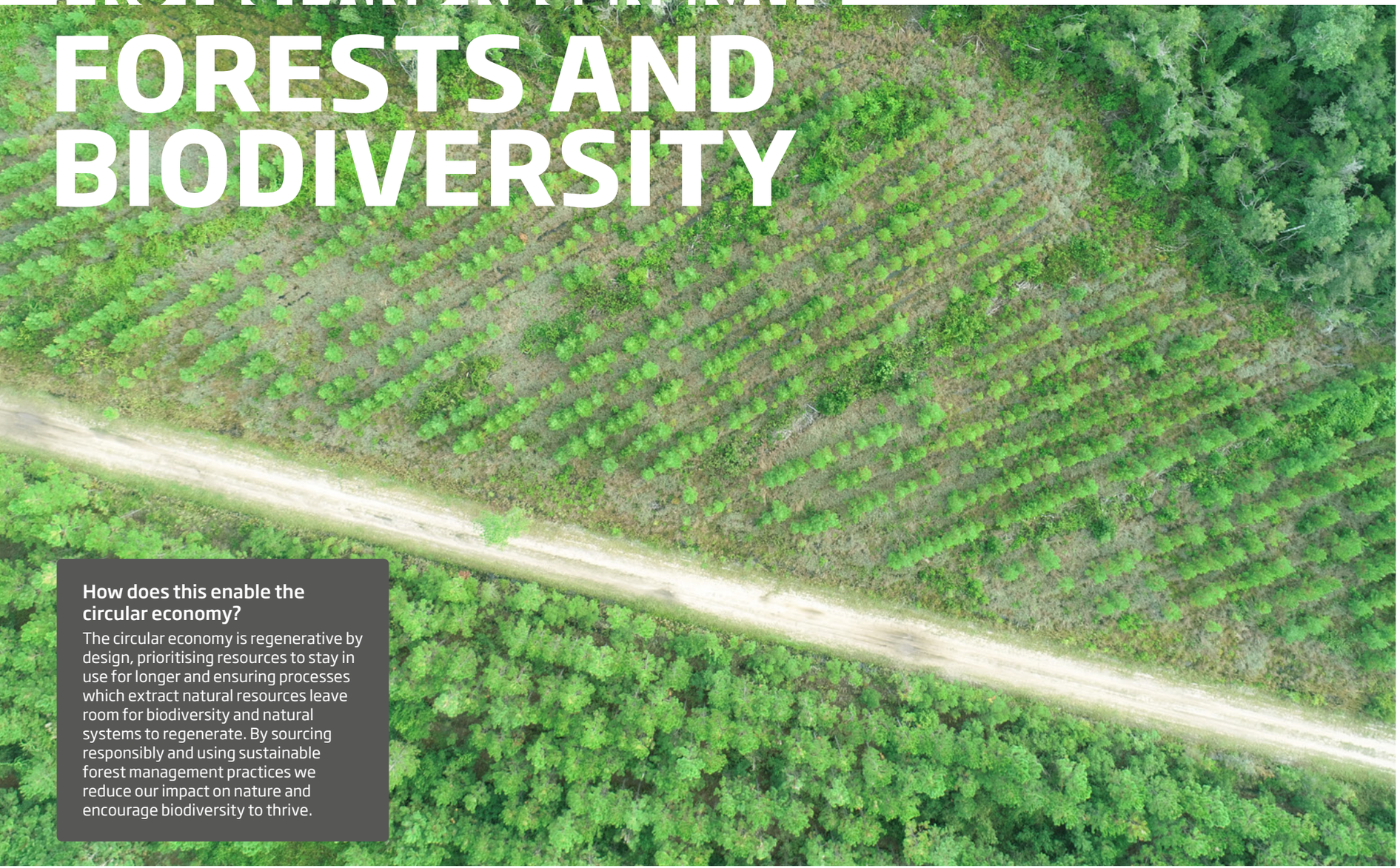
NATURE

We are protecting nature, improving biodiversity and managing water responsibly. In the future we will increase our focus on measuring and biodiversity in our own forests and investigating new science-based approaches for setting targets for nature.

In this section

PROTECT AND REGENERATE

FORESTS AND BIODIVERSITY



How does this enable the circular economy?

The circular economy is regenerative by design, prioritising resources to stay in use for longer and ensuring processes which extract natural resources leave room for biodiversity and natural systems to regenerate. By sourcing responsibly and using sustainable forest management practices we reduce our impact on nature and encourage biodiversity to thrive.

Why does this matter?

Protecting and regenerating forests and biodiversity is essential to ensure the survival of plant and animal species, genetic diversity and natural ecosystems.

Biodiverse natural ecosystems provide clean water and air, contributing towards resource security and human health.

How does this contribute to the Sustainable Development Goals?

Measuring and improving biodiversity contributes to reducing the degradation of natural habitats, halting the loss of biodiversity and protecting and preventing the extinction of threatened species.

Now

- By 2025, measure and improve biodiversity in our own forests and assess our dependencies on nature
- By 2025, biodiversity programmes in place at each of our paper mills

Next

- Set targets to regenerate nature taking a science-based approach

Number of our paper mills with biodiversity programmes in place

Cumulative total of mills with biodiversity projects per year

PROTECT AND REGENERATE FORESTS AND BIODIVERSITY

By 2025, measure and improve biodiversity in our own forests and assess ourdependencies on nature

In 2022/23, our project to measure and improve biodiversity in our North American forest progressed to its third phase, implementing measures to protect the local gopher tortoise population found on our land. This is a species native to the south-eastern United States and is considered a 'keystone species', supporting other local wildlife and biodiversity.

Alongside this, 13 of our paper mills (2021/22: 12) continued to develop their conservation activities as part of their biodiversity programmes this year. This includes, for example, a beehive project in the local community of Reading Mill, which is aiding pollination in the natural ecosystem, an essential process to support local plant life.

Protecting and regenerating forests

Our protection and regeneration of forests and biodiversity is supported by our 100 per cent recycled, FSC®, SFI or PEFC certification scheme requirements, both in our own forests and in the chain-of-custody certification for the papers we source.

During the year, we established a deforestation working group, currently focused on assessing the implications of upcoming deforestation regulation and opportunities for closer commodities risk surveillance and monitoring.

Task Force on Nature-related Financial Disclosures (TNFD)

We are monitoring the development of the TNFD framework with interest, as a disclosure framework for reporting on nature to drive more restorative and nature-positive outcomes.

Our work to measure and improve biodiversity will help us begin to understand the integrity of the ecosystems within our c. 7,000 hectares of forest in North America.

Case study

Identifying and measuring threatened, endangered and rare species within our forests

In partnership with the Warnell School of Forestry and Natural Resources at the University of Georgia, our North American forestry team has been undertaking a three-phase project to measure and improve local biodiversity. This began by with comparing the soil and ground cover within the forest to expected standards and an assessment of flora and fauna.

The team identified:

- 62 mammal species, including 3 classified as threatened or endangered
- 262 bird species, including 17 classified as threatened, endangered or rare
- 54 amphibian species, including 8 classified as threatened or rare
- 62 reptile species, including 17 classified as endangered

A variety of tools were used, such as the iNaturalist app, Smithsonian National Museum of Natural History material, the Backyard Bird website and the U.S. Fish and Wildlife Service Environmental Conservation online system.

From this work, we will continue to use the latest technology, observation methods and conversation techniques to proactively manage our timberlands in a sustainable way that protects nature and local biodiversity.

100 per cent of the papers we use are either recycled or chain of custody certified

We achieved our target to source 100 per cent recycled or chain of custody certified papers in 2019/20 and we continue to maintain this standard.

This involves requiring suppliers to provide chain of custody certification for all papers purchased.

For paper purchased through our centralised Paper Sourcing platform, the following paper certifications were in place in 2022/23:

- FSC® Recycled: 75 per cent
- FSC® Controlled Wood: 19 per cent
- FSC® Mix: 6 per cent

With regular checks in place, we can offer our customers confidence that their packaging is produced using sustainably sourced papers, enabling them to communicate their responsible sourcing credentials and meet their own commitments to zero deforestation.

100%

of the papers we use are either recycled or chain of custody certified (minimum controlled wood standard)

100%

of our forests are managed under sustainable forest management certifications (FSC®, PEFC, SFI)

100%

of our Packaging, Paper and Paper Sourcing operations that manufacture or trade products derived from timber are FSC® certified, demonstrating to our customers that forest-derived materials have been produced to FSC®'s rigorous standards

PROTECT AND REGENERATE FORESTS AND BIODIVERSITY CONTINUED

By 2025, biodiversity programmes in place at each of our paper mills

By the end of 2022/23, 13 of our paper mills (2021/22: 12) had launched their biodiversity programmes, demonstrating multi-year commitments to improve biodiversity.

These biodiversity programmes comprise a series of projects and activities to support biodiversity on site and in collaboration with the local community.

Our paper mills are international in scope and owed to the diverse landscapes in which they are located, their biodiversity programmes often have unique focuses.

Over the course of this year, Viana Mill in Portugal continued to work in close cooperation with the nearby Urban Ecological Park. Our colleagues inaugurated five insect hotels which were installed at the park to offer shelter and nesting facilities to insects, particularly during the winter months.

Zarnesti Mill in Romania continued to deliver its programme by cleaning parts of Bârsa river which passes close to the mill as an activity for the 2022 World Cleanup Day. The river is home to a wide variety of species, including beavers.

Belišće Mill in Croatia undertook a tree planting day, whilst Reading Mill in North America matured its bee-keeping programme.

Amongst other activities, our mills in Rouen in France, Kemsley in the United Kingdom and Reading in the USA, planted and maintained wildflower meadows on site.

Our biodiversity programmes support our long term ambition to assess our dependencies on nature and set targets to regenerate nature taking a science-based approach.

Case study

Planting yew trees at Belišće

Our Belišće Mill in Croatia organised a tree planting day in December 2022 as part of its programme, planting 350 seedlings of Taxus Baccata (yew) trees around the effluent treatment plant with the aim to bring a positive contribution to the biodiversity in the area.

"The tree planting brought our team together and will help build a greener future for the site here in Belišće."

Toni Bilic
Mill Manager at Belišće Mill

The trees will help create a more biodiverse and attractive landscape between the site and the local area. The project was supported by the local community and environment group.

The yew trees have biodiversity benefits through the great value of their fruits, which are a source of food for many animal species.

Case study

Flowering biodiversity awareness at Trakia

Our Trakia Mill in Bulgaria began its programme by organising an International Day of Biodiversity celebration for local schoolchildren.

The team educated children from two local primary schools on environmental awareness in a fun, hands-on way. This included planting a garden of flowering plants and bushes with the children together with their parents.

As part of the project, the DS Smith colleagues also installed 10 information boards teaching the pupils about birds native to the area, as well as information on the appropriate food to put into wild bird feeders.

The project was sponsored by the DS Smith Charitable Foundation and supported by the local school, the Bulgarian Society for the Protection of Birds and the Regional Inspectorate for Environment and Water, Pazardzhik.

Case study

Producing honey in beehives at Reading

Our Reading Mill in Pennsylvania, USA, launched its programme last year. In May 2022, it populated its first four beehives on site.

There are now ten beehives located at the southwest corner of the property next to the Schuylkill river.

The team has introduced wildflowers to encourage pollinating bees with an abundance of food, as well as areas to take rest and shelter.

The majority of the colonies survived the winter, and the team is hoping to produce around 100lbs of honey from each colony by this July, involving our people and the local community in harvesting.

There are plans to create an observational hive where visitors to Reading Mill can see the inside of the beehive and the bees at work.

Set targets to regenerate nature, taking a science-based approach

As part of refreshing our Now & Next Sustainability Strategy, we will investigate setting targets to regenerate nature, taking a science-based approach.

Restoring balance to nature

Alongside rapid decarbonisation, the climate must be stabilised, limiting nature loss by preserving and regenerating resources obtained from nature, such as water, land and soil.

This needs to be achieved in accordance with the latest scientific research and by implementing management practices that sequester carbon and reverse nature loss.

Regenerating nature requires society to radically transform how it produces, uses and disposes of things. By circulating material over and over, we can keep materials in use, design out waste and pollution and work to regenerate natural systems.

Fibre-based packaging and nature

All industries are dependent on nature in some way, and our industry is no exception. The resilience of our circular business is highly dependent on the provision of natural resources and ecosystem services.

For example, although we recycle packaging, fresh fibre is required as the primary raw material and as a renewable fuel, in the form of biomass.

Water is also a crucial natural resource used to transport fibres through the process and as a conduit of energy in the form of steam. Some of the measures in place to protect these precious natural resources are described on this page.

Get Nature Positive campaign

At COP26, we announced our membership of the Get Nature Positive campaign, committing to work with more than 70 companies from various industries to help tackle, halt and reverse the loss of biodiversity and to challenge each other to build a nature positive future.

Our circular business model and its relationship with nature

Forestry and paper sourcing

- Timber supply chain
- Sustainable forestry, including soil health
- Chain of custody certification

Around 80 per cent of the papers we use are recycled papers and the remaining 20 per cent are chain of custody certified, meaning that they can be traced back to the source of origin.

Under the certification schemes we participate in, three trees are planted for every tree that is harvested in our supply chain.

In our own forests, 100 per cent of the land area is managed under sustainable forest management certification, including FSC® and SFI.

Pulping and bleaching

- Water withdrawals and discharges
- Greenhouse gas emissions
- Waste sent to landfill (rejects)

The papermaking process is heavily reliant on large volumes of water to break down material for recycling in the pulping process and then heat to dry the paper.

We are making our papermaking processes more efficient, with projects to reduce water withdrawal and greenhouse gas emissions.

We are making our waste streams more circular and we use Total Chlorine Free (TCF) processes in all of our paper mills.

Collection and recycling

- Waste management solutions

We recycle around 6 million tonnes of paper and cardboard each year, which is greater than the volume of packaging we sell.

We have been at the forefront of tackling difficult to recycle materials, ensuring material is recycled, rather than thrown away on beaches and in oceans.

Distribution

- Air emissions from transportation

We optimise box size for most efficient product fill, palletisation and on-shelf efficiency - removing lorries from the road and reducing carbon emissions in supply chains.

Corrugated manufacturing

- Circular design and supply chain optimisation

Over 700 designers create circular packaging for our customers. We optimise fibre through performance paper specifications and minimise ink coverage and trim waste.

Helping our customers enter the circular economy with recyclable packaging reduces the demand for primary raw materials from nature, alleviating pressure on forests.

Conversion and packing

- Reusable or recyclable packaging

We work closely with our customers to deploy reusable or recyclable packaging designs that improve line efficiency with optimised pack designs and real-life testing, reducing environmental impact.

Retail and use

- Recyclability

We collaborate with some of the world's most iconic brands, developing on-pack sustainability communications that promote recycling.

Well-designed Shelf-Ready Packaging (SRP) improves the efficiency of transport, storage and replenishment cycles, lessening the impact on nature.

Information and policies

CDP Climate Change

CDP Forests

CDP Water Security

Get Nature Positive campaign

Science-based Targets for Nature (SBTN)

WATER MANAGEMENT

How does this enable the circular economy?

Processes for natural resource use are designed to allow natural systems to regenerate. By reducing the amount of water we withdraw from nature to carry and transform fibre through our operations, we reduce pressure on natural systems. By reusing and recycling water multiple times and through efficient water treatment, over three quarters of the water we withdraw is safely returned to the natural environment to continue the water cycle.

Why does this matter?

Responsible water management is important to benefit and respect the needs and priorities of all water users in a locality, in a way that does not harm the natural ecosystem and water cycle.

How does this contribute to the Sustainable Development Goals?

Responsible water management contributes to improving water quality, efficiency and scarcity, protecting and restoring water ecosystems.

Now

- By 2025, 100 per cent of our paper mills and packaging sites to have water management plans

This is an update to our previous target, which was to maintain water stress mitigation plans at 100 per cent of our sites identified as at current or future risk of water stress.

This target was achieved in 2019/20 and continues to be maintained as a business-as-usual practice.

Next

- By 2030, 10 per cent reduction in water withdrawal per tonne of production at mills at risk of water stress compared to 2019

Water withdrawals at paper mills located in regions at risk of water stress (per metric tonne of net saleable production) (m^3/t nsp)

WATER MANAGEMENT

By 2030, 10 per cent reduction in water withdrawal per tonne of production at mills at risk of water stress compared to 2019

In 2022/23, the average water withdrawal per tonne of production at paper mills located in regions at risk of water stress was 8.9 m^3/t nsp (tonne net saleable production) (2021/22: 8.1 m^3/t nsp).

This increase is attributed to changes in production patterns given the reduction in packaging volumes and subsequent demand for paper compared to prior years. This includes a greater number of shutdown periods, requiring drainage and refilling. It is anticipated that the stronger performance will return as volumes recover.

Significant investments, including the new wastewater treatment plant at Zarnesti Mill and a new freshwater recycling (recirculation) system at Pazardzhik Mill have helped to significantly reduce water withdrawal.

At Pazardzhik Mill, a new water recirculation system has been installed, which has reduced water withdrawal by c. 23 per cent compared to 2019/20.

This has been made possible due to installation of a three-stage grid filter within the effluent system to remove contaminants so that recovered water can easily flow back into the process, which now recirculates around 12m^3 of water per tonne of production.

Progress towards this target lessens pressure on natural water resources through water reduction, reuse and recycle opportunities, protecting water as a finite natural resource.

Managing water resources

In our direct operations, over half of our sites maintain ISO 14001-certified environmental management systems, which includes practical tools to manage environmental impacts and responsibilities.

This enables management that is specific to local contexts and regular reviews meaning that responses to water-related risks can be implemented in a timely manner.

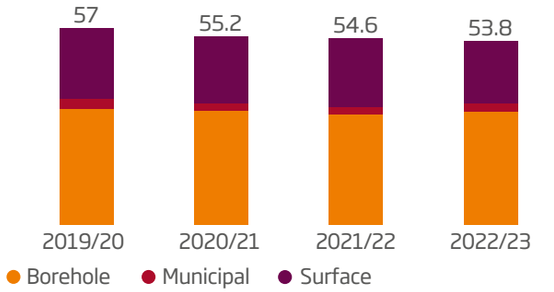
As part of our supplier engagement programme, we set standards relating to water reduction and assess the water performance of our suppliers using EcoVadis.

This supplements our use of WRI Aqueduct to identify direct operations located in water-stressed areas across all of our manufacturing sites globally. The results of this analysis are used to inform water-related risk assessments, and reporting, including on climate risk.

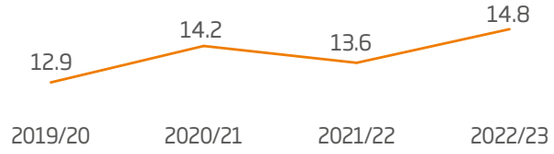
Our Group-wide Water Stewardship Policy sets out our approach to water stewardship, including our commitments to work with our local communities and regulators to ensure that wherever we operate, water is used efficiently.

We participate in the CDP Water Security questionnaire annually, providing transparency and accountability for performance on water.

Total water withdrawals, by source (million m^3)



Total water consumption (million m^3)



→ Turn to page 57 for other water metrics

Reducing our freshwater consumption

Our business is vitally dependent on freshwater given that it is intrinsic to the papermaking process. Water is used as a transportation medium for our primary raw material (fibre) as it is transformed from used paper to recycled paper. It is also used as a means for transferring energy (as steam), within both papermaking and corrugating.

Given that around 95 per cent of the water that we withdraw is used for papermaking, our major initiatives to reduce freshwater consumption are focused on making improvements at our paper mills.

These initiatives include:

1. Reusing freshwater multiple times
By changing the configuration of machinery, infrastructure and processes to allow water to enter a different part of the process before being returned to the natural environment

2. Recycling freshwater multiple times
By changing the configuration of machinery, infrastructure and processes to allow water to cycle multiple times within the same process before being returned to the natural environment

3. Optimising water intensive processes
By improving the processes that require water so that they are more efficient and less resource intensive, such as making changes to how water spray nozzles are configured, with the potential to reduce energy and water consumption

4. Upgrading water intensive equipment
By investing in new and improved equipment that is less resource intensive, with the potential to reduce energy as well as water consumption

All of these practices help to reduce water withdrawal and consumption, conserving and protecting water.

Case study

New wastewater treatment at Zarnesti Mill

During 2022/23, an €8.7 million wastewater treatment plant (WWTP) upgrade was completed at Zarnesti Mill.

The project, undertaken as part of a wider modernisation project, including sewerage system replacement and water treatment improvement, will decrease freshwater withdrawal and consumption.

Through increased water reuse and recycling, it is expected that the changes will decrease water withdrawal by c. 20 per cent.

Furthermore, through an aerobic digestion process, biogas is produced from the wastewater treatment process. There are plans in place for this to become a renewable fuel source as part of a future boiler upgrade, which will reduce the amount of natural gas required to meet the energy demand of the mill.

By 2025, 100 per cent of our paper mills and packaging sites to have water management plans

We continue to take a risk-based approach to water stewardship, which includes water stress mitigation planning combined with water withdrawal reduction initiatives in the regions most likely to be impacted by future water stress.

In 2022/23, we maintained water stress mitigation plans at the 29 sites identified as at risk of water stress.

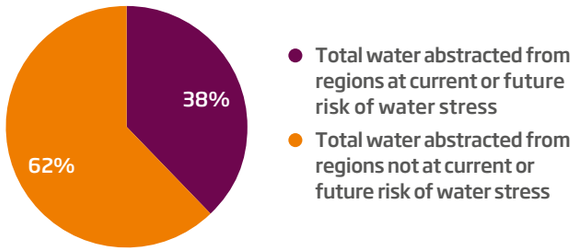
This includes business continuity planning, regular contact with relevant stakeholders (e.g. the water authority and local community) and monthly water performance tracking.

From mitigation to responsible water management

Given the importance of protecting water as a finite natural resource, we are extending this approach with a new Now & Next target to implement water management plans at 100 per cent of our paper and packaging sites by 2025.

This will go beyond mitigation planning to proactive stewardship, including the identification of water reduction opportunities at a wider range of our sites.

Water withdrawal in regions at current or future risk of water stress (%)



Adapting to climate change

In the long term, there is a risk that competition for water could increase in the river basins from which we withdraw water. There is a chance that local authorities could impose supply constraints to prioritise domestic supplies over industrial users of water.

In our Task Force on Climate-related Financial Disclosures (TCFD) reporting, we have identified that increased likelihood of water stress is a chronic physical risk arising from climate change.

Water stress has the potential to impact specific geographies in the long term, and is likely to be more severe in a higher warming scenario (e.g. in a greater than 2°C world compared to pre-industrial era temperature levels).

As part of our climate scenario analysis, we have considered the potential primary financial impact of a future water curtailment event to consider the resilience of our strategies, taking into consideration different climate scenarios.

We consider our present-day strategies resilient to climate-related risks and opportunities, helped in part by key mitigation actions, including the major initiatives to reduce freshwater consumption outlined on the previous page.

See DS Smith Annual Report 2023, pages 52-63 for our Task Force on Climate-related Disclosures (TCFD) reporting

Case study

Reusing water from improved ink treatment

After two years of preparation, Alès packaging plant, located near Nîmes in France, successfully commissioned a new flexographic printing ink effluent treatment station.

Whilst these inks, used in the printing of packaging materials, are popular due to their low cost and high quality, there are pigments, solvents and other additives in the wastewater that must be treated before it can be returned to the natural environment.

The new station utilises safe chemical treatment to aggregate, filtrate, oxidate and demineralise the wastewater so that it can be reused in another part of the printing process.

This reuse of water helps to reduce water withdrawal from the natural environment, in addition to avoiding shipping industrial liquids that would traditionally have to be treated elsewhere.

Water stress mitigation planning

For several years now, we have required our sites identified as at risk of water stress to maintain a water stress mitigation plan.

These plans include:

- Training and awareness-raising
- Water reduction, reuse and recycle opportunities
- Business continuity planning
- Stakeholder mapping and engagement planning
- Proactive performance measurement
- Monitoring of watershed conditions

The plans are reviewed annually, and actions are created where improvement opportunities are identified.

Information and policies

Water Stewardship Policy

WRI Aqueduct Water Risk Atlas

CDP Water Security