



BOORTMALT SUSTAINABILITY REPORT

2022



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mt = Metric Ton



ABOUT THIS REPORT

The Boortmalt Sustainability Report covers our sustainability commitments, actions and ambitions, and our progress, for the financial year 2021-2022 which ended on 30 June 2022.

This annual report shows how sustainable development is being adopted by our people in our malting plants as well as with our partners throughout the respective up- and downstream processes.

The more we learn about how to deliver malt sustainably, the more we realise we are on a steep learning curve with a long way still to go and not a lot of time left. This report is therefore also intended to make you reflect on your approach to sustainability and motivate you to reach out if you think that together we can make a bigger difference.

Boortmalt's sustainability reporting is guided by our commitment to the Sustainable Development Goals (SDGs), and the Science Based Targets Initiative where we commit to stay below 1.5°. This report has been prepared in accordance with the GRI-referenced claim.



A WORD FROM OUR CEO



Dear readers,

I appreciate your interest.

On Sustainability, we are making progress, but we want to accelerate. You will see in this report our progress against our transparent, ambitious, achievable 2030 targets.

Boortmalt has committed to SBTi 1.5°C along with still too few other companies. In 2022, we have progressed in all dimensions, particularly our understanding of Scope 3. Our Safety indicators have improved, and most importantly, the accident's severity has dramatically diminished. Our water consumption has reduced and continues its trend with the global Optisteep® technology roll-out. The CO₂ emissions per tonne of malt have also reduced (but have, in absolute terms, increased due to the reopening of malting capacities).

“

There are many words in this report, but what matters the most at Boortmalt are the concrete actions and their implementation to have a positive impact.

”

Every slight improvement is essential and is the fruit of a continuous improvement mindset, day after day, on the shopfloor of our malting plants. The big game changers ‘in the pipe’ are coming but are not yet contributing to our overall CO₂ reduction effort. The road to our 2030 commitments is clear. With our Horizons® roadmaps, we are now paving the way to carbon neutrality for scopes 1 and 2.

There are many words in this report, but what matters the most at Boortmalt are the concrete actions and their implementation to have a positive impact. Having an impact and making a difference is our source of motivation. To achieve that neutrality soon after 2030, we have approximately 70 projects and PPAs to implement in our 27 maltings plants worldwide. This is why I want to accelerate.

Sunny regards,

Yvan Schaepman
Boortmalt CEO

A handwritten signature in white ink, which appears to read 'Yvan Schaepman', written over a dark blue background.

OUR SHAREHOLDERS



Axereal is a cooperative group that unites 11,000 farming members around a common vision: to enhance and sustain agricultural production which contributes to improving food supply quality.

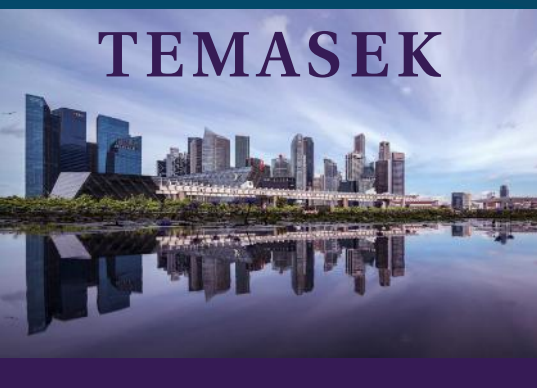
Axereal collects and sells grain as well as oilseed both domestically and internationally. A percentage of the grain is processed through its industrial plants into flour, malt and animal feed.

“ The malt business of our cooperative group, led by Boortmalt, sets an example in terms of sustainable development. It fits perfectly with the values of our cooperative group, anchored in a long-term trajectory, and co-constructed with the farmer members. This culture of proximity and collective spirit is a strength that we put at the service of our customers.

Jean-François Loiseau, Axereal President ”

“ Boortmalt, like the entire Axereal group, is fully committed to the agricultural and food transition. We aim to increase our profitability by structuring our activities, from the field to the customers now moving towards a regenerative agriculture.. Each step towards more sustainable production and processes is an additional step to serve the expectations of our customers, and ultimately consumers.

Paul-Yves L'Anthoën, Axereal CEO ”



Temasek is a global investment company headquartered in Singapore.

Temasek's portfolio value is about 230 billion US Dollars. It spans a broad spectrum of industries: financial services; telecommunications, media & technology; consumer & real estate; transportation & industrials; life sciences & agribusiness; as well as energy & resources.

“ Temasek is a generational investor. We invest today with tomorrow in mind which implies that sustainability is at the core of our mandate. We are proud to support Boortmalt, the world's largest malt producer, operating at the leading edge of sustainable values in the malting industry.

Benoit Valentin, Senior Managing Director EMEA, Temasek ”



Unigrains is a reference partner for agri-food and agro-industry companies in France and abroad. An independent investor, Unigrains has been majority-owned by French grain farmers' associations since it was created on their initiative nearly 60 years ago.

“ Unigrains fully supports Boortmalt in its pursuit of ambitious CSR objectives that serve to structure a sustainable and long-term vision. Serving on the Board of Directors, we intend to accompany these important and demanding initiatives and be a driving force for continuing to transform ambitions into concrete actions.

Didier Bosc, Director of Strategy ”

BOORTMALT TODAY

Boortmalt is the world leader in the malt industry with production capacity of 3 million tonnes. Boortmalt's expertise is widely acknowledged by brewers and distillers who rely on our supply of top-quality barley malt for the world class beers and whiskeys they produce.

1st

Global maltster

3Mt

Production capacity

5

Continents

27

Malting plants

Agriculture

Our ability to influence every link in our supply chain, from seed to malt, is an essential element in our uncompromising focus on quality and has proven to be a distinct competitive advantage. Our network of growers around the world produces some of the best quality malting barley and always adheres to the highest environmental and food safety standards.



We work closely with them to employ state-of-the-art technologies such as satellite monitoring and precision farming techniques to optimise seeding rate, fertiliser application, and crop protection. We also work with barley breeders to help continuously develop and perfect new varieties to further improve the quality of malting barley and agronomic sustainability and resilience.

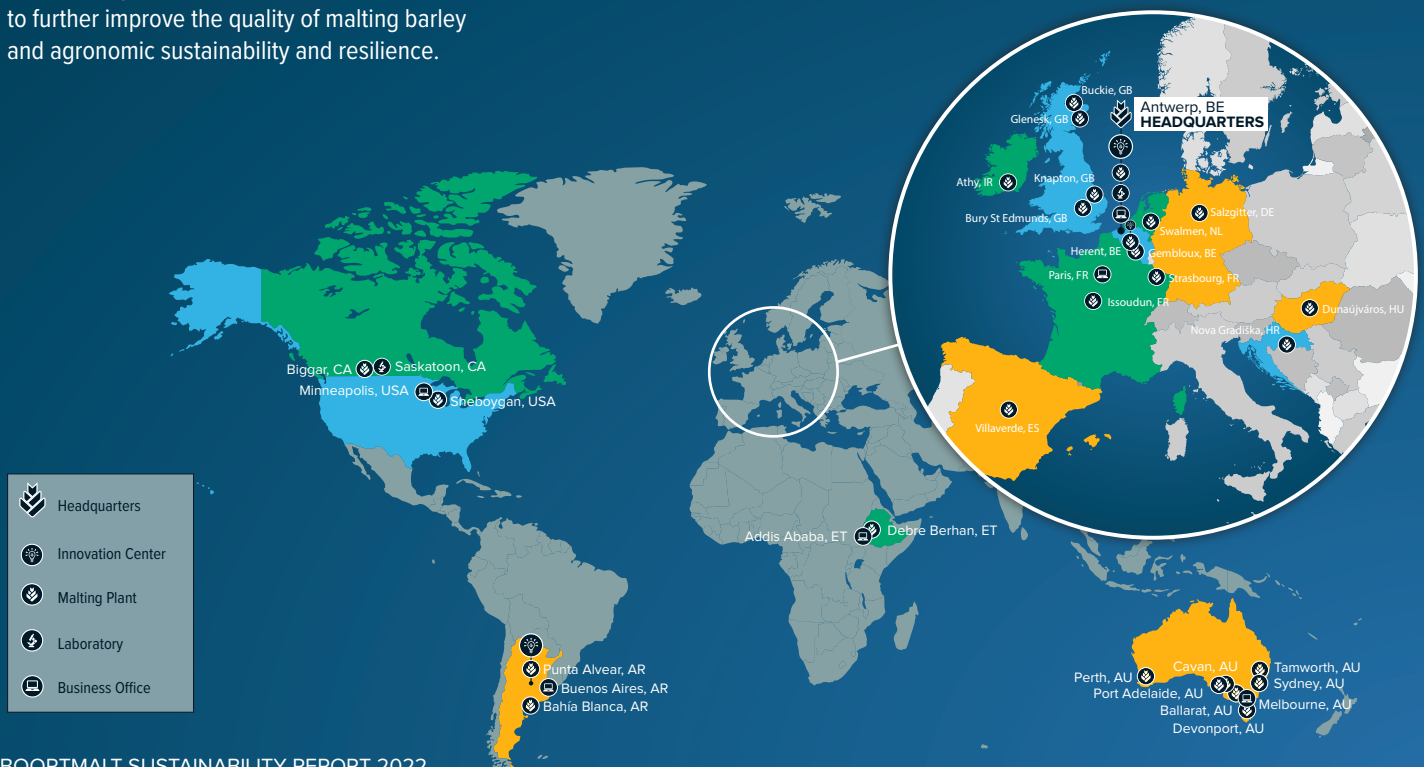
Malt quality

Malt is not a commodity, it is a food ingredient that must be carefully crafted. The selection of barley, the recipe, the water, the heat, nothing should be left to chance.



The quality of the malt depends on the expertise of the maltster who knows how to manage the natural germination process and ensure optimal conditions to meet the specifications expected.

From the field to the customer, we analyse samples to make sure we deliver high quality malt at all times. Our laboratory network is constantly striving to offer new services and ever more detailed analyses.





Customers

Because we know that all of our customers are focused on reducing their environmental footprint and consuming more responsibly, we strive to lead their sustainability ambition for the industry and let them know they are in expert hands.

Distillers

Our distiller customers deeply care about their consumers and are committed to generating warmth and happiness all around. Their spirits are the result of centuries of expertise and knowhow, so they do not expect anything less from their malt supplier. They partner with Boortmalt because we challenge ourselves every day to provide authentic distilling malt customised to achieve the highest distillery performance. In our malt they recognise their roots and identity.

Brewers

Our brewer customers, whether large-scale global players or mid-sized local champions, always expect the best product and service quality. Each brewer has different needs, recipes, and ambitions. We care about what they are and what they do which is why we do whatever it takes to support them in achieving their goals.

Food Sector

The food manufacturers we provide with adjuncts, flours, and other products are all driven by the need for very functional ingredients, with the highest level of quality and supply consistency, and all in a mission to disrupt the ever-changing food industry. They continuously rely on Boortmalt as we help them think out of the box and be pioneers in their industry.

Innovation

At Boortmalt, our ambition is to become Masters of Innovation in the malting industry.

Our Innovation Centers in Belgium and Argentina are a unique proposition in the malting world, covering all aspects from barley to malt, beer and malt extract.

Through our Innovation Centers we support different avenues of innovation, from collaborations with universities, startups and research centers, to developing projects with different players via European programmes.

We also encourage internal innovation by supporting and promoting ideas from everyone throughout the organisation. For that purpose, we have developed a digital application: BeOpen.



OUR FAMILY OF LOCAL MALTHOUSES

MALT OFFER DEDICATED TO CRAFT BREWERS



STEEPED IN TRADITION



JOE WHITE MALTINGS



BELGOMALT



The craft brewers and distillers we work with are passionate about what they do and the enjoyment they share among their communities. They are all deeply anchored in their local lands and very much driven by their own values. They chose to partner with our family of local malthouses around the world because we genuinely care about their long-term success and growth. Our dedicated teams strive to support them and explore new territories every day. Our daily collaboration is a source of inspiration for the whole industry.

OUR STRATEGY

We have positioned ourselves as the world leader in malt production not because it was our goal, but because of our drive to become the best at what we do and our vision of being Masters of Malt. Our stakeholders support our belief that sustainability comes from within. Many Boortmalt employees are brewers themselves by education or passion and therefore fully understand our products and what we stand for. Our mission is to contribute to the enjoyment of communities by passionately making natural malts. We aim to be the best by excelling and becoming an inspiring leader in our seven key strategic dimensions.

7 STRATEGIC DIMENSIONS

MASTERS OF FINANCIAL PERFORMANCE

Our company's performance reflects the efforts made by our employees to become the best at what we do. We understand that growth can only be achieved by running our business in a sustainable way.

MASTERS OF SUSTAINABILITY

Our sustainability commitment is not only driven by customers but is integrated within our DNA, simply because it is the right thing to do. We make sustainability tangible and have already achieved a lot but know that we still have a long way to go to reach our goals.

MASTERS OF DEVELOPMENT

Continuous development is a key focus within our strategy and is driven by always challenging ourselves and encouraging and embracing pioneering ideas.

MASTERS OF INNOVATION

We follow a mindset where craftsmanship and innovation intensify each other. Our innovations and best practices are shared with others in the industry, reflecting our ambition to become an inspiring leader.



MASTERS OF OPERATIONAL EXCELLENCE

Our company culture empowers and motivates employees to not only produce high-quality malting barley but to also achieve long-term sustainable growth. We do so by focusing on adding value throughout our value chain, from farmer to brewer, to end consumer.

MASTERS OF "WELL-BEING"

Our employees are our most important assets. Their energy, creativity, and expertise contribute towards building a more competitive and sustainable malting business and their "well-being" is one of our top priorities. We welcome diversity by recognising that all individuals from a wide range of backgrounds and experience can contribute towards achieving our objectives.

MASTERS OF COMMERCIAL SOLUTIONS

Being the best within a global competitive market means that we need to stay connected and engaged with our customers. Through active communication and collaboration with our customers we ensure we always keep up with changing needs. Our recent use of blockchain technology, for example, has addressed the increasing need for transparency and traceability throughout our supply chain.

OUR CULTURE & CORE VALUES

Alignment between corporate values and culture is a prerequisite for the success of our mission. We therefore invest time and resources to involve all layers of the company in the definition and implementation of our corporate culture.

Our values inform our thoughts, words and actions and help us grow, develop, and create a sustainable future. Every Boortmalt employee, every Master of Malt, is involved in making decisions every day. These decisions reflect our values and beliefs and are always directed towards our specific purpose, which is clear: every day we want to do better than yesterday while preserving tomorrow.



STRIVE

We commit to continuously challenging ourselves for our customers and team members by taking ownership of everything we do and contributing to global success. We all work as a team and know that true teamwork produces better results. We look for excellence in everything we do to deliver the highest value to the Company and partners. We have a pro-active approach and encourage all to take initiative for the Company's best interests.

CARE

We care for our colleagues, our communities, our earth, our partners, and our customers. We believe that diversity makes us stronger. We encourage trust, empathy and treat one another with respect. We are always available, show empathy to others, and treat our team, colleagues, customers, and all business partners with respect. We build and maintain good relationships with people in different locations and encourage them to work together within and across regions.

EXPLORE

The way we encourage out-of-the-box thinking and embrace pioneering ideas is a continuous source of motivation. We like challenging the status quo and are always open to new ideas, even when things are working well, to develop our full potential. We encourage all employees to suggest new solutions and ways of working through regular brainstorming activities. Therefore, we see change as an opportunity to learn.

INSPIRE

We deliver long-term sustainable performance through innovation and digitisation and are proud to have become praised Masters of Malt through building long-term relationships with our customers internally and externally. We think and plan ahead in anticipation of future business needs and implement digital solutions to enhance working process effectiveness. We continuously look for the most sustainable solutions.

BOORTMALT HIGHLIGHTS 2021-2022

July 2021

REOPENING OF CAVAN MALTING PLANT

The Cavan Malthouse provides an additional annual capacity of 77,000 tonnes of malt to support the company's existing malting operations in Port Adelaide.



October 2021

ISSOUDUN THERMAL SOLAR POWER PLANT

After cogeneration and biomass, the Boortmalt Issoudun malt house in France can now count on solar thermal energy. Covering an area of 15 square meters, the Issoudun site is one of the most advanced malting plants in terms of the carbon reduction process.



November 2021

FIRST BOORTMALT SUSTAINABILITY REPORT

This report is a testimony of our commitment to our 2030 sustainability goals.



December 2021

WORLD'S LARGEST KILN OPENS IN BUCKIE

The new, modern kiln measures 41 metres in diameter and has a capacity to hold 600 tonnes of malt per batch. It also boasts economical burner technology, designed to increase energy efficiency.



April 2022

DEPLOYMENT OF OPTISTEEP TECHNOLOGY

3 new sites can count on the technology:
Villaverde - ES, Port Adelaide - AU, Biggar - CA



June 2022

BOORTMALT X

We launched a global corporate-startup collaboration platform to recruit the world's best entrepreneurs to unlock the potential of malt through diversification.



September 2022

BOORTMALT AT DRINKTEC 2022

From the 12th to the 16th September, Boortmalt was present in Munich for the Drinktec, the largest trade fair in the world for beverage industry.



SUSTAINABILITY AT BOORTMALT

We live in an era of change and challenges where the decisions we all need to make reach beyond our organisations and will determine if we can keep the planet in balance and secure a bright future for generations to come. For this we need to make the right choices and at Boortmalt we continue to do so. We are a company that is aware of our responsibility, and we are committed to make the necessary changes in our own operations but also to partner with our suppliers and customers to positively impact every step of our end-to-end value chain.

Let's look first internally at what we have achieved and start with people, the heart of our organisation. Our well-established health & safety programmes continue to improve the safety of all working on our sites and in the area of equality and diversity significant steps forward were made. We took further action on our road to meet our 2030 1.5 °C carbon reduction targets and we developed, with support of an external consultant, our blueprint to get to net-zero.

Our water reduction programme was rolled out across multiple sites, investments are ongoing, and more results will show as of next year. Our waste management is close to target and small initiatives are driving that further to get to '0' landfill across all sites. In our supporting initiatives we also took good steps forward, and we developed a central in-house BI reporting environment to drive the right behaviour and to monitor our progress,

“We have a responsibility to act decisively and to take the right steps towards building an organisation that is resilient and ready for the future, a future that we look forward to.”

But as stated earlier, our ambition extends beyond our borders, to the source of our product: barley. We broadened our engagement in farmer programmes to help drive sustainable practices that reduce emissions, increase biodiversity, and allow for the sequestration of carbon in the soil. As many say, we are at a tipping point, and we strongly believe that regenerative farming practices will help turn global warming around so moving forward this is where our outside focus will continue to be.

We start the next section of our report with an overview of the end-to-end CO₂ footprint of beer and whiskey looking at it from the perspective of one metric ton (mt) of malt to create a shared understanding of the impact of each step and the importance of working together.

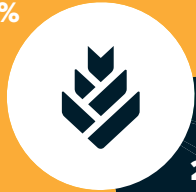
Please enjoy reading our report and feel free to reach out with ideas and suggestions to drive sustainability forward together.

Inge de Winne
Chief Sustainability & Supply Chain Officer



TOTAL EMISSIONS

79%



21%

29.7%

BOORTMALT SCOPE 3 AGRICULTURE



13.8%

1.6%

BOORTMALT SCOPE 1 & 2
Energy Scope 3*

3.4%



50.8%

BREWERS & DISTILLERS FROM CRADLE TO CONSUMER

BOORTMALT SCOPE 3 BREWING & DISTILLING PROCESS
Average 613kgCO₂/mt

OTHER PRODUCTION PROCESSES, DISTRIBUTION & CONSUMPTION

Sourcing volume of malt

8%



DISTILLING SCOPE 3
1214kgCO₂/mt

92%



BREWING SCOPE 3
3553kgCO₂/mt

They are emissions from brewers and distillers that come from other raw materials processing, packaging and product distribution logistics.

USE OF SOLD GOODS AND END OF LIFE

WHISKEY
59kgCO₂/mt

BEER
1388kgCO₂/mt

DISTILLING SCOPE 1&2



1mt OF MALT



8.65HL OF WHISKEY
925kgCO₂/mt



1240 X 70CL BOTTLES

BREWING SCOPE 1&2



1mt OF MALT



75.5HL OF BEER
584kgCO₂/mt



22870 X 33CL BOTTLES

OTHER EMISSIONS
7.8kgCO₂/mt

WASTE - 0.3kgCO₂/mt
We have very little waste as malting is a natural process based on the germination of barley. This process has a side stream of animal feed and a small flow of organic waste going to fertiliser/compost/anaerobic digestion. We aim to have no organic nor other waste going to landfill.

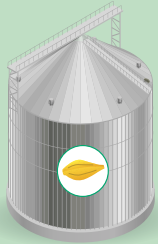
PACKAGING - 0.7kgCO₂/mt
Most of our shipments are non-packed so the footprint of our packaging material is very small and not material. Yet, we do consider it critical as part of our 'waste' strategy.

BOORTMALT EMISSIONS

From Barley to Beer & Whiskey

FARMING PURCHASED GOODS & SERVICES

Main contributor to Scope 3 upstream. Our objective is to engage with 2/3 of farmers/coops/dealers, to drive sustainable practices and reduce CO₂ emissions. We use CFT for data capturing and reporting.



BARLEY
362kgCO₂/mt
MALT



BARLEY TRANSPORT
20.9kgCO₂/mt
MALT

ENERGY SCOPE 1 HEAT PRODUCTION

The malting process is mainly based on barley, water, and heat, currently generated primarily by burning gas. An external study was conducted in FY 2022 and we have a fully worked out strategy for 1.5 °C by 2030 as well as a Net Zero strategy in place.

10.3%

MALTING SCOPE 1
130.5kgCO₂/mt
MALT

ENERGY SCOPE 2 ELECTRICITY PURCHASED

Emissions related to the electricity we procure will be reduced to '0' through on-and off-site PPA's (Price Purchase Agreements) and green electricity with certificates by 2030.

1.9%

MALTING SCOPE 2
24.5kgCO₂/mt
MALT

INBOUND TRANSPORTATION
Where possible we source barley locally to make the supply chain as short and efficient as possible. We are partnering with our logistics providers to look for electric and in the future hydrogen solutions.

*ENERGY SCOPE 3 ENERGY TRANSMISSION

Emissions relating to the transportation of energy are based on a purely technical calculation. As we reduce the need for gas, the scope 3 relating to the transport of gas will decrease, and that relating to the transport of electricity will increase.

1.6%

MALTING SCOPE 3
20.7kgCO₂/MT
MALT

BREWING & DISTILLING PROCESS:

This process is referred to in Boortmalt's scope 3 as the process of sold products within the chain. This process is considered as brewers' and distillers' Scope 1 & 2.

MALT TRANSPORT
41.7kgCO₂/MT
MALT

OUTBOUND TRANSPORTATION
A large part of downstream transport is handled (paid for) by our customers hence our potential direct impact is limited. We are partnering with customers to use CNG/LNG, test out electric, and in the future go to hydrogen.

BY-PRODUCTS
The malting process produces by-products. Emissions coverage is calculated over malts, not for by-products in this report.

BUSINESS TRAVEL & EMPLOYEE COMMUTING - 1.2kgCO₂/mt
Although insignificant in number we believe that small changes impacting our employees directly are important. We have a policy in place for electric cars and on-site solar panel driven charging stations.

CAPITAL GOODS - 5.6kgCO₂/mt
We do not actively strive to reduce the carbon footprint from investments in our buildings and infrastructure as they are needed to de-carbonize the malting process. Nevertheless, we implement improvements where possible.

SUSTAINABILITY GOALS

4 CORE OBJECTIVES



HEALTH & SAFETY



We promote an open and proactive health and safety culture with the full involvement of our people and stakeholders, and strong, visible leadership. In doing so, we are on the way to becoming one of the safest places to work.



SUSTAINABLE FARMING



We promote farming methodologies which prioritise practices that are environmentally sound and beneficial to local communities, and continuous improvement in them. We work both directly with farmers through our local sourcing programmes and through our dealers and co-ops.



ENERGY USE & EMISSIONS REDUCTION



Our ambition is to reduce our carbon footprint to meet the goals of the Paris agreement by investing in alternative energy, improving our energy efficiency and sourcing renewable energy. Our road map to meet the 1.5°C target by 2030 is in place, as is our net-zero road map.



WATER CONSERVATION



We continuously raise awareness of water conservation and focus on all possible ways to optimise the use of water and where feasible, the re-use of treated wastewater. In a world where water scarcity is a reality, we see it as our responsibility to have the most water-efficient malting processes in place.



5 SUPPORTING OBJECTIVES



COMMUNITY ENGAGEMENT

We recognise the important role local communities play, and we believe that our business and the communities in which we operate should be well connected. We are convinced that strong and sustainable communities are the basis of our future and that we, through partnerships and sponsorships, can make a difference together.



EQUALITY, INCLUSION & DIVERSITY

We strive for an inclusive and diverse workplace where employees always feel energised, respected and valued, and where their skills, knowledge and creativity are nurtured and drive our ambition to be the Masters of Malt.



BUSINESS ETHICS & CODE OF CONDUCT

We are committed to conducting business in an ethical and sustainable manner and we all stand by our Business Ethics Manual. We expect the same from our business partners and are driving this through our Supplier Code of Conduct.



WASTE REDUCTION (FOOD)

We are working towards a target of zero landfill by continuously optimising our yield and finding alternative uses for our by-products, thereby contributing to the overall UN aim of halving food waste globally by 2030. We also aim to eliminate waste to landfill entirely. In addition, we use fully recyclable bags & liners and are developing recycling programmes in collaboration with our customers.



TRACEABILITY & TRANSPARENCY

We believe it is key to provide a fully reliable, transparent and traceable view of the road our product travels from the barley in the field to the malt at the brewer or distiller so that end consumers can make informed decisions about the beer or whiskey they drink.



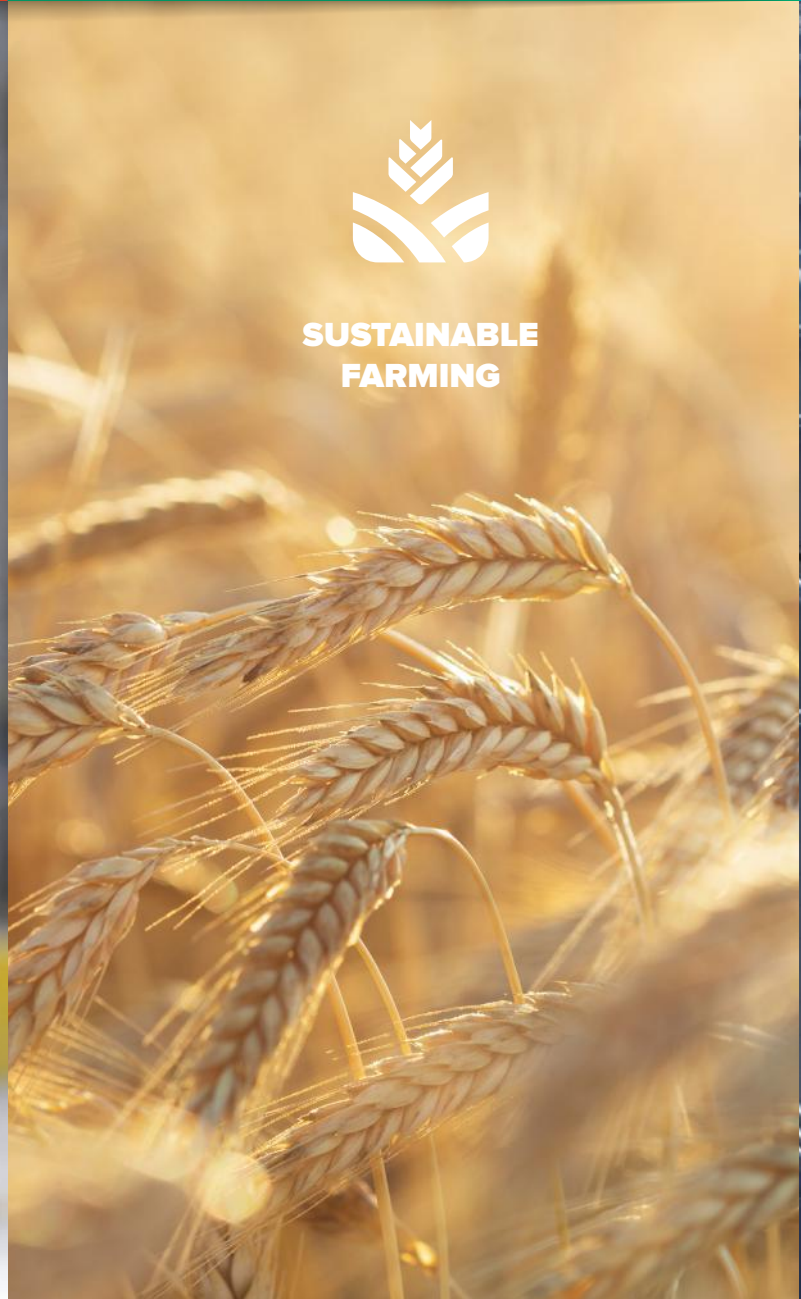
CORE OBJECTIVES



**HEALTH
& SAFETY**



**SUSTAINABLE
FARMING**



BOORTMALT SUSTAINABILITY GOALS



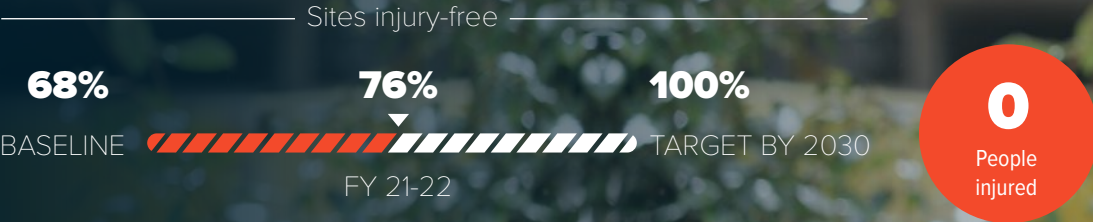
**ENERGY USE
& EMISSIONS REDUCTION**



**WATER
CONSERVATION**

HEALTH & SAFETY

We promote an open and proactive health and safety culture with the full involvement of our people and stakeholders, and strong, visible leadership. In doing so, we are on the way to becoming one of the safest places to work.



Approach

Safe working is an integral part of how we plan, organise and undertake our business activities and operations to eliminate hazards and reduce risks. We believe that Boortmalt can become one of the safest places to work. That is why we promote an open and proactive health & safety culture with the full involvement of all of our people and stakeholders. This is reinforced through strong and visible leadership and by striving to achieve and maintain our group safety target of zero harm.

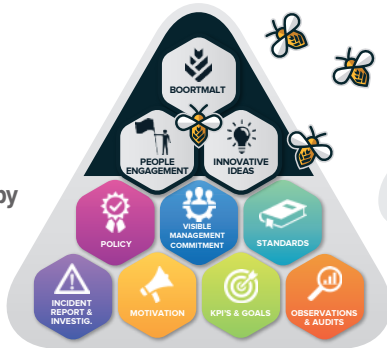


“Even a single accident is one too many.”

Mauricio Corsi, Safety, Health & Environment

Our Safety Culture

Strive and drive for 0 HARM by implementing the Together approach to mature safety environments following the Safety Culture Curve.



- ✦ Safety is a CORE VALUE
- ✦ Employees take care of themselves and each other
- ✦ Systematic two-way communication on safety
- ✦ The right to stop an unsafe act or not to carry out an unsafe activity
- ✦ Lessons learnt are quickly integrated into the plans
- ✦ 100% of managers/leaders carry out preventive activities every day
- ✦ Leaders dedicate time and effort to recognising achievements, safe behaviours and initiatives

Award for health & safety achievements at Buckie

This year our plant in Buckie has received an internationally recognised RoSPA silver award. RoSPA (Royal Society for the Prevention of Accidents) grants awards for high health and safety standards, and the hard work involved in ensuring everybody gets home safely to their families at the end of every working day. Organisations receiving a RoSPA Award are recognised as world leaders in health and safety practice. Our team in Buckie is proud of its safety culture, encompassing a proactive approach and everyday measures. We are using the Buckie example and are currently also collecting evidence for RoSPA awards for our other plants in the region to give them the same recognition, demonstrating our pride in our safety culture.

Continuous learning is one of the keys to superior safety performance. Starting from this year, all team leaders in the Ireland and UK region are being requested to complete the IOSH Managing Safely course. A small-scale but inspiring initiative by the Buckie plant was to translate our Health & Safety Policy into the Doric language spoken in the northeast of Scotland. This way our safety motto sounds closer to Buckie’s employees’ hearts.

“Safety should be as simple as ABC: Always Be Careful, & nae be seen be seen as sumthin else tae dee, but be about the wye ye dee it.”

Gary Lawton, Senior Operations Manager





Zero-harm policy

To make our sites harm-free, we are evolving our metrics, reporting processes and approaches. We have progressed from reporting only Lost Time Accidents to reporting all injury beyond first aid. The Stop5 and Yokoten processes help us to prioritise the accidents and learn across the organisation.

The 'Safety hive' illustrates the Boortmalt Way of doing safety. At the basis is a solid compliance framework that includes seven key relevant organisational topics such as policies, standards, KPIs, targets and reporting. In the new approach, we emphasise that keeping everyone safe is a continuous collaborative process of improvement, we welcome everyone's ideas and test them in the field. This way we move from a reactive to a proactive approach and develop intrinsic motivation to work as safely as possible. The 'Safety hive' mindset ensures that our employees become active safety ambassadors and that safety is an integral part of everyone's daily activities.

Among the 76% of injury-free sites many have maintained the status for more than three years, demonstrating that zero harm is achievable.

Covid-19

The Covid-19 crisis is, thankfully, drawing to a close. Nevertheless, at the beginning of this year we were still in the middle of the pandemic. We are proud to say that through the measures taken on our sites we provided a safe working environment and frequently received positive feedback from our colleagues, of them feeling safer within Boortmalt than outside. Excellent collaborative efforts were made to put all necessary measures in place to control the virus and run our business in a safe way, protecting everyone's health. Our Global Crisis Management Committee gave weekly updates and comprehensive guidance on further actions to combat one of the biggest challenges of our time.



Perth, Australia

Our plant in Perth has achieved seven years injury-free and is an excellent example of how we put safety at the forefront of everything we do. Safety is a culture that is engrained in every process by default. For the staff each day starts with an alignment meeting, this is to encourage the exchange of information and always concludes with a message on our safety culture and what safety measures will take place that day. Managers are removing safety barriers and ensuring that employee safety is never compromised. The Perth team makes safety very personal, organising discussions on what being safe means to our employees and their families, and how life could change if a work-site accident were to occur.

“ You know safety is becoming culture when people continue to work safely and do the right thing even when nobody is watching. ”

Mitchell Beazer, Perth Plant Manager





Punta Alvear, Argentina

Latin America was the only injury-free region in FY21-22 with two and five years without recordable injuries in Punta Alvear and Bahía Blanca respectively. Our team in Argentina organises multiple safety training courses on a regular basis. This year the team has taken the initiative and created a video tutorial on using the Defibrillator (AED) and giving CPR with employees acting for the filming. The video was shared with all the sites, contributing to an improvement in local and global safety measures, and showing how our safety hive works.

The plants celebrated their excellent health and safety performance with a barbecue. It was a wonderful opportunity to reconnect after the strict COVID-19 regulations were lifted and recognise the amazing collaborative effort our team has made to become Masters of Safety.

“ The Safety System is based on people and made for people. We have a unique action log where we capture everything related to safety. Every week at our leadership meeting we follow up on actions taken, and we discuss and add new ones.

Pablo Gabriel Grassini, Punta Alvear Plant Manager



Firefighting training

All our sites take a proactive approach and organise multiple activities to prevent fire hazards and boost our employees' skills in handling different types of fire extinguishers both at work and at home.

Our silo towers are often the highest buildings in the surrounding area and knowledge about the specifics of the construction and the malting process is vital to navigating the building quickly and extinguishing fires rapidly. That is why it is crucial to have good ongoing lines of communication with local fire brigades and provide regular training at sites. To highlight a few initiatives, this year our plant in Issoudun has organised training for 35 firefighters from the region focusing on the risks posed by the silo. The Herent plant performed an evacuation drill with the Herent fire service. This kind of joint exercise helps firefighters to be prepared in the event of an emergency, understand our processes and 'malting language', and give us feedback for the continuous improvement of our sites. We also regularly invite fire brigades and specialised companies to teach our employees fire extinguishing skills in the field imitating real-life conditions.



World Day for Safety and Health at Work

As part of this year's United Nations campaign to raise awareness on safe and healthy work environments, we held events at our sites celebrating World Day for Safety & Health on 28 April. The theme was acting together to build a positive safety and health culture.



Ethiopia

Our team in Debre Birhan gathered to reflect, share and remember those who have lost their lives in the workplace elsewhere in the world. Employees discussed preventive actions and further ways to make the plant the safest place to work.

Argentina

On 28 April, our team in Bahía Blanca was in the middle of a plant shutdown. All tasks were completed without any recordable injury, which demonstrated the commitment of our employees. The team in Punta Alvear organised training for all employees on using fire extinguishers at home.

France and Spain

To celebrate the day, our safety team in France and Spain prepared a quiz on health and safety at work rules. Employees had a full week to participate in the activity, and those with the highest scores were rewarded for their knowledge.

Belgium and Netherland

Our sites in the BeNe region organised an awareness campaign to promote our safety culture. Employees completed an introduction to CPR, and then had the opportunity to enrol in a longer training course as company emergency workers.

Health check-ups in Spain

At Boortmalt we encourage our employees to take a preventive approach not only to the safety of our operations but also to their own health. This year, our team in Villaverde organised a health check-up point at the site where everyone could undergo tests and consult a doctor in complete comfort, in a single day.

We see this initiative as particularly important at the moment, when people are delaying or neglecting regular health checks due to the pandemic and fear around it.



Sports activities

Both our safety and human resource teams and our employees themselves organise sports activities to boost the body and mind. Softball in Biggar, padel and jogging in Antwerp, tennis in Punta Alvear and a beach rugby tournament in Issoudun are just a few of the activities that our employees take part in regularly to increase their energy levels and look after their health.

With teleworking becoming more and more popular, we are keen to encourage staff to stay active even when they are at home with our online yoga classes available any time of the day.



Pink Walk Challenge

This year our team has suggested joining the Pink Walk challenge which inspired employees across all our sites to walk 10,000 steps a day to support breast cancer charities. We see this as an exciting opportunity to both promote healthy lifestyles and engage with communities around us.



Focus on upcoming actions

Over the next three years we will continue working to standardise and harmonise our health and safety measures with a focus on simplicity. We will keep our Operational Discipline of identify, develop, communicate and check and make sure everyone is trained and re-trained on our health and safety concepts.

We will continue to strive to connect through our operational network and learn from each other's experiences using the Yokoten and STOP5 processes. And last but not least, we will celebrate our safety achievements by organising events and developing regional SHE Awards.



SUSTAINABLE FARMING

We promote the continuous improvement of farming methodologies through local sourcing programmes which prioritise practices that are environmentally sound and beneficial to local communities.

Barley volume assessed through carbon emission measurement tool with the aim to reduce the footprint



Approach

We have witnessed devastating droughts in Canada, Australia and Europe, and excessive rainfall and extreme weather in all corners of the world. We see climate change affecting our suppliers, and this spurs us on to do even more to promote sustainable farming. At Boortmalt, we believe that more sustainable and resilient farming is crucial for our future. Prioritising good stewardship of farmland, aiming to create a better physical, chemical and biological soil environment by using the right practices and farm management approaches is key to meeting our current needs without compromising the ability of future generations to meet their own.

The majority of our barley is sourced locally. Good relations with farmers are at the heart of our sustainable farming programme. This ranges from SAI or equivalent certifications to using the CFT (Cool Farm Tool) to measure emissions and reduce carbon footprints. By engaging with farmers directly, as well as through our supply chain partners, co-ops, traders and dealers, we want to understand where we are today and what it will take to achieve the target of keeping global warming below 1.5°C.



Data collection & certification

Robust data collection is one of the major principles of continuous improvement. Currently, we are capturing carbon footprint data with the CFT and testing digital tools that might help us on this journey, and at the same time provide technical feedback to the farmer for their farming decision processes.



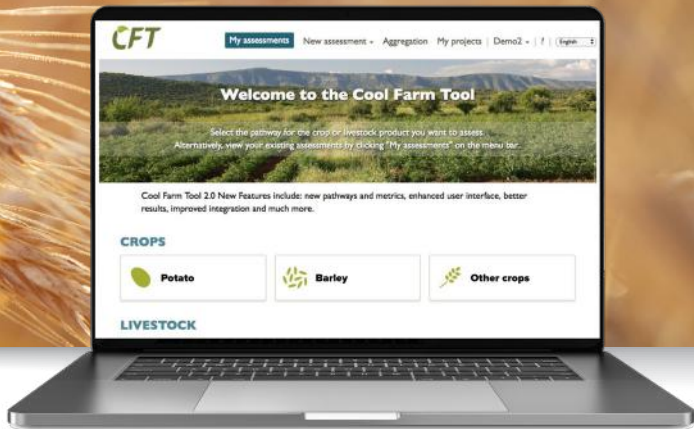
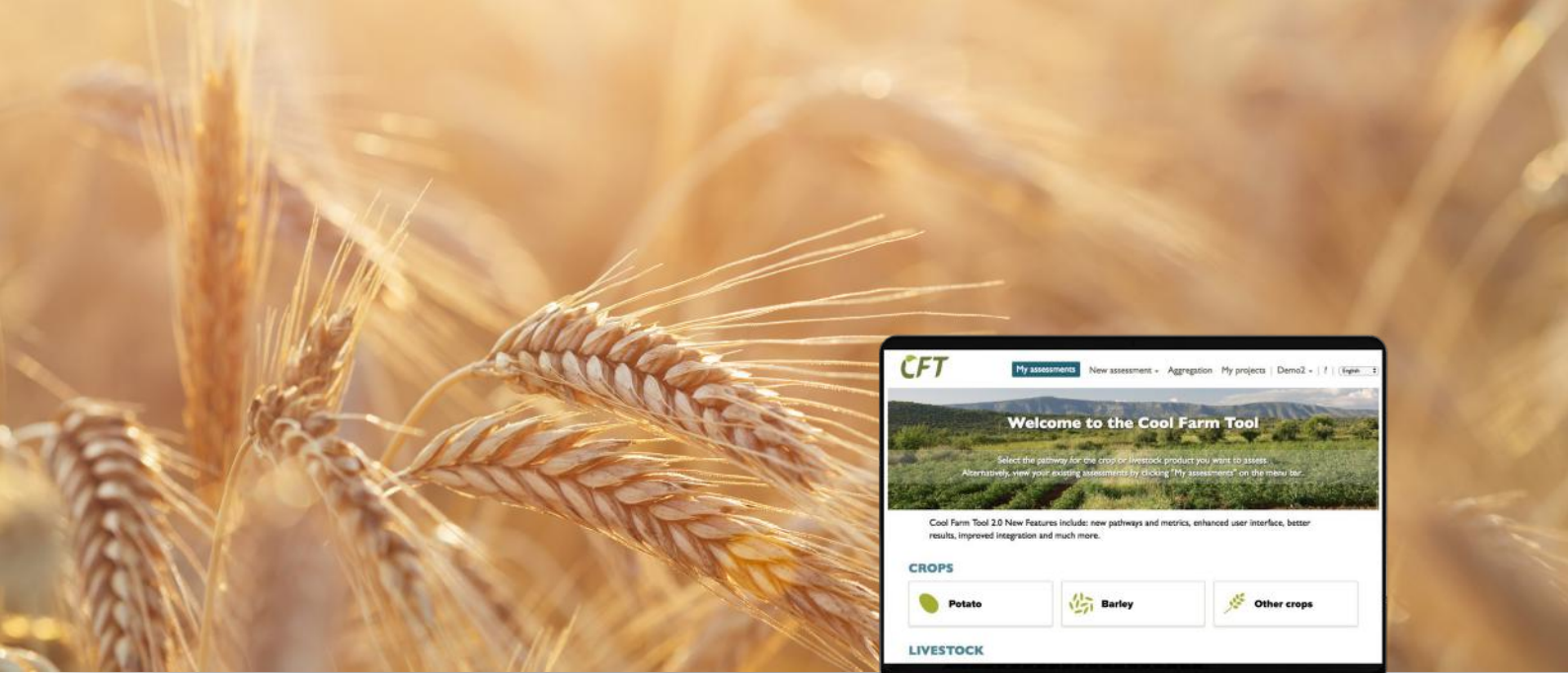
“It is our goal to find industry solutions for our Scope 3 decarbonization ambition. Individual solutions won’t bring relevant results. Collaboration among industry stakeholders is key.”

*Rodrigo Vilches,
Group Agricultural Manager*

Barley Scope 3 and SBTi

Barley farming is considered the most important driver of our cradle-to-gate emissions and contributes 64% of the malt carbon footprint. Boortmalt has committed to the Science-Based Target of 1.5°C for scopes 1 and 2 and is currently evaluating how to reach the new FLAG 1.5°C target which requires a reduction of 35% of purchased goods and services emissions by 2030.

The carbon footprint of barley can be split into two main areas: carbon emissions and opportunities to sequester carbon. It is possible to reduce carbon emissions, but we will never be able to eliminate them entirely. Regenerative farming practices allow for sequestration and hence a negative carbon footprint, but necessarily involve long-term commitments. To see them have an effect, long-term partnerships with our supply chain partners and farmers are key. Given that a farm grows just one barley crop per year, we only have six or seven crops with which to reach the ambitious target of 1.5°C. Without support from governments, farming organisations, our partners, our customers this would be impossible due to the high risk for a farmer of making adjustments in a world where climate change is leading to more extreme weather events.



Exploring new tools to capture the carbon footprint of farming practices

This year we have tested several platforms that allow farmers to provide the data on their farming practices and use of fertilisers, pesticides, etc. in an electronic format. The key focus in our search for a digital solution is to facilitate robust and traceable data collection and make it as easy as possible for our farming partners, eliminating the need for manual data collection and input.

Our craft brand in Argentina has tested a digital platform to accompany farmers on their journey through the full crop production cycle and developed a model to connect it with blockchain technology. In Ireland, we are working with a 3rd party and our farming partners to pilot a different tool. It takes farming data collection through a mobile app to another level, providing feedback to farmers on the best regenerative farming practices to use depending on their performance. Trials are ongoing and we hope to see a fruitful synergy between capturing carbon data in an easier, more scalable way and providing relevant suggestions for further improvements in regenerative farming practices.



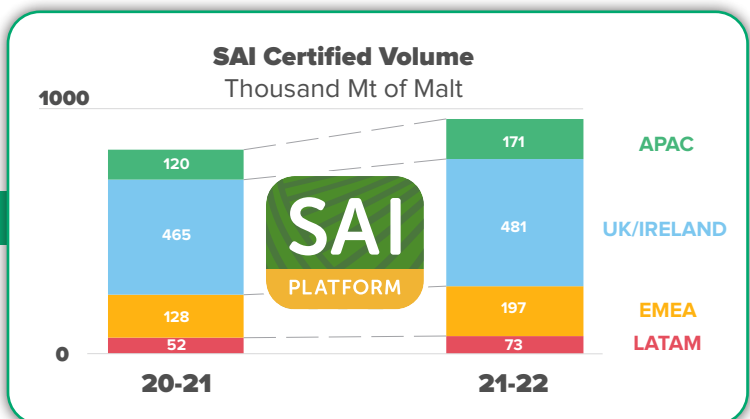
Broadening our SAI base in Australia

This year we have expanded the amount of SAI certified barley we source worldwide. In Australia, we made a big leap with a 43% increase in SAI-equivalent certified malt (ICCP) compared to FY20-21. The Australian team have exceeded their annual target by more than 2.5 times and are well on track to be sourcing more than 300 thousand tonnes of SAI or equivalent certified malt by 2030.

Cool Farm Tool

Measuring our barley carbon footprint and accumulating learnings about the effect of regenerative farming on carbon emission reduction and sequestration is the basis of our sustainable farming programme. We have started using the Cool Farm Tool (CFT), an agriculture emission calculator developed by Cool Farm Alliances, to achieve this for a small portion of our barley in five regions: Latin America, North America, Continental Europe, Ireland/the UK and Asia Pacific.

At present, we are still quantifying our overall barley footprint using national emission baselines available in published reports and research. By starting to collect and assess data from our barley farmers in different regions via the CFT, we want to establish our own baseline and be able to compare our actual footprint against the national benchmark. Our own data, sufficiently detailed, accurate and comprehensive, is crucial if we want to learn and see which factors are driving emissions within the barley crop. This information will help us share best practices and provide guidance to farmers on better farming approaches that will reduce carbon emissions and increase sequestration.



Regenerative farming

Regenerative agriculture is an outcome-based farming approach that protects and improves soil health, biodiversity, climate and water resources while supporting farming business development (SAI regen farming working definition)

We see it as the way to improve soil health and have an impact on carbon emission reduction and sequestration. Regenerative agriculture practices are represented in all of the different projects we run, yet their scope and focus differs by region due to soil type, location, weather, maturity, size, etc. Most pilot projects are in their initial phase but they are providing good learnings already.



Learning Initiatives with partners

We are working with some of our key customers on projects to better understand what it takes to produce carbon-neutral or carbon-negative barley. Currently, we have initiatives in the UK, Ireland, Argentina, Australia and France.

Our approach is to pilot practices with high potential in terms of reductions. The projects run for a minimum of five years, the minimum timeframe for validating the results of sequestration. Together with our customers and co-ops/traders, we support the farmers in making these adjustments. After every crop year, we bring the farmers together to share results and findings and promote best practices. Given that these farmers are pioneers and passionate about setting the example for others, we need to be careful not to assume that their carbon footprint and their achievements can be replicated across all farms.

A partnership with Axereal

Together with Axereal we are running a five year “Malt Neutre” programme which aims to grow carbon-neutral barley by applying the principles of regenerative agriculture. Axereal is involving 50 farmers from six farming regions in France in this initiative. Together with a third party responsible for data collection, we are supporting the farmers in the transformation from conventional to regenerative farming practices.

Generating carbon certificates with Axereal

With sub-group of ten farmers within the ‘Carbon Neutre’ programme we ran a special project. They were followed during two crop seasons to assess the improvements that could be achieved by applying different regenerative farming techniques. The results showed that eight out of ten farmers reduced their carbon footprint per hectare and the overall absolute emissions of their farms.

Four farmers moved from positive to negative carbon emissions meaning that this year they have sequestered more carbon than they emitted. Within this sub-group, a total of 2,672 tonnes of CO₂ were sequestered in crop year 2021, an increase of 1,523 tonnes compared with the year before. Through third-party calculations and data management, certificates were generated for this project in a single year. These certificates provide additional income for the farmers, not only for their barley but potentially for all their other crops as well.



“Increased use of regenerative farming practises is essential in the protection of our planet for future generations.”

*Jonathan Roberts
Barley Procurement Manager UK & Ireland*

Reductions in carbon emissions were achieved by changing fertiliser practices (reduction, use of inhibitor, organic fertiliser etc.) and improving sequestration thanks to cover crops and low tillage. These results showcase the great potential of regenerative farming techniques to reduce carbon emissions and improve sequestration while caring for biodiversity and soil health.



Farming projects developed by Boortmalt

Farming in Ethiopia

The barley supply chain in Ethiopia mainly involves smallholder farmers (SHFs) farming an average of one hectare or less of land. An approximate yield of 2.5 tonnes per hectare is harvested per individual farmer. To collect the targeted annual volume, Boortmalt works with SHFs located in different parts of the country, mainly in the Amhara and Oromia regions. In the 2021/22 crop season we worked with more than 30,000 farmers targeting 60,000 tonnes of malting barley. For this within our agricultural team of 54 people, 49 of whom work directly with the farmers at field level, support the growers from sowing through until harvest and collection. This starts with certified seed supply and continues with three rounds of training on land preparation and sowing, crop management, and harvest and quality management. Training is followed by regular field visits to observe and consult with the farmers as their crop passes through the different stages. During the collection period, we carry out field-level grading and aggregate the harvest close to the farmers' locations to supply the malting plant.

At Boortmalt, we are committed to supporting our farming communities around the malting plant, enabling them to grow high-yield malting barley varieties using up-to-date farming practices and technology in a sustainable manner.



Ireland Agricultural Solutions programme

Boortmalt is working with a third-party partner on a joint programme to reduce CO₂ emissions associated with barley production in Ireland. The pilot project, a world first in that it involves the entire malting barley value chain, will be initiated as part of the 2022 barley campaign with 50 selected Irish farmers. Together, Boortmalt and the third party will provide tools and platforms to support climate-smart farming practices. In doing so, they will enable Irish barley farmers to reduce CO₂ emissions and increase carbon sequestration to decarbonise agriculture and help combat climate change. As well as helping farmers share best practices, we are also working with our partner to test and roll out the right digital platform to facilitate single data entry, add value and replicate this programme in other locations.



Belgomalt Pure Local

The Pure Local team is a group of motivated Belgian farmers, maltsters and agronomists who want to bring brewing barley back to Belgian soil. With a passion for nature, cereals and regenerative farming practices, they also aim to sequester carbon emissions in the soil and strengthen its vitality at the same time.

Four years ago, Pure Local started with four Belgian farmers and produced 100mt of barley. Today, there are 38 farmers involved, producing 1670mt of regeneratively grown 100% Belgian barley. The farmers in the group use best practices to meet the brewers' quality standards. They have signed a book of specifications, committing them to transforming their farms from conventional to fully regenerative in a few years. They are working with an agricultural advisory organisation that has received the 'regenerative agriculture' EU trademark.

To track this transition, they record information on the techniques used and measure the carbon footprint of the farms. In return for their efforts, the farmers are rewarded with a fair and stable price per tonne of barley. The assessment for the 2021 crop year showed an emission with sequestration footprint of 44kgCO₂ per mt of barley, a significant improvement from the barley emission baseline in continental Europe of 278kgCO₂ per tonne. Belgomalt Pure Local aims to involve more local farmers in the production of regenerative Belgian barley and to reach negative carbon emissions within the next few years.



- Reduce the use of pesticides and eliminate measurable pesticide residues in malt.
- Replace chemical fertilisers (NPK) with organic fertilisers (manure, compost, etc.).
- Protect and nourish the soil with plant cover sown before and/or after the crop.
- Reduce intensive soil tillage to encourage the development of fauna, flora and microbial life in the soil, which promotes plant health and supports sequestration.
- Promote biodiversity and encourage organisms beneficial to crops, like birds of prey, hoverflies, beetles, ladybirds, etc.
- Capture CO₂ from the air to reduce impact on the climate and promote soil fertility (humus).

Biodiversity

Biodiversity is the basis of a healthy ecosystem providing fertile soils, pure water, clean air, good balance and other ecosystem services. By supporting biodiversity, we directly and indirectly support sustainable barley farming.

New barley varieties

Today more than ever, new barley varieties are playing an important role in overcoming current and future challenges resulting from the climate crisis. Having had first-hand experience of the changing climate, farmers understand the need to adapt new varieties more quickly. At Boortmalt, we pay special attention to developing new barley varieties that offer higher agronomic performance, require less water and pesticides, and are resistant to pests, diseases and erratic climate events. For that, we collaborate with farmers and global breeding organisations to keep investing in re-breeding activities and scientific research. Our site in Ethiopia is engaged in a BITIB (Better Income Through Improved Barley varieties) project. This year we have tested seven new candidate barley lines grown in four different regions of Ethiopia to identify those offering the best agronomic performance.

Developing new barley varieties is time-consuming and requires a long-term commitment. Currently, we are working on a variety diversification programme aiming to create robust barley varieties more suited to the new conditions and the climatic risks emerging in our operating and sourcing regions.

Bringing back old varieties of native species is an important way of preserving local ecosystems and enhancing genetic diversity for modern plant breeding while also offering high cultural value. Boortmalt in Scotland is involved in the renaissance of Bere Barley, an ancient barley variety, the UK's oldest cereal, grown for more than 1,000 years. Bere Barley is highly resilient and adaptable with an exceptional flavour. It is listed by the Birsay Heritage Trust in Orkney. We source it from them to produce malt that is in turn used by small distilleries.

In parallel, our team in Ireland is reviving other old barley varieties, one of which is Old Irish Circa, bred back at the beginning of the 1800s. In total, we have planted four old barley varieties in our own 50 acre-field near the Athy plant. We grow them according to traditional methods without any synthetic products. This is popular with our craft customers who seek out the malt produced from these varieties.



FARM PROFITABILITY



Malting Barley selection rate



Local sourcing



Keep malting barley a relevant crop for farmers



Closed supply chains for specialty products



Reduce agrochemicals

Supporting pollinator restoration

Several production sites are involved in pollinator protection initiatives. The site in Strasbourg continues to make donations to the local black bee restoration campaign.

Our plant in Athy has voluntarily joined a national All-Ireland Pollinator Plan that aims to revive the country's bee species, one-third of which are threatened with extinction. The Athy team is working on making the site more pollinator-friendly by installing nests and planting wildflower patches around the plant. In addition, the Irish team has developed a Bee Safe mobile app that facilitates communication between farmers with tillage fields and beekeepers, notifying the latter about the use of pesticides within 5km of the beehive. This year, we have conducted a beta test of the app in the field and are in the process of securing certification to upscale its use.



Uma Malta forest regeneration and endangered species

Our new craft brand in Argentina, Uma Malta, is working closely with a local NGO, Friends of Patagonian Forests, to raise awareness about environmental issues and help restore biodiversity in the region. The brand has undertaken to donate one tree for every 4 mt of craft malt sold. This year, Uma Malta has contributed 4,000 trees to restore the native Patagonian Forest in the Lanín National Park which has suffered extensive fires over the last year.

The Uma Malta team has also chosen to link each of its malt varieties to an animal in danger of extinction in Argentina to generate awareness of their preservation status. To spread the message to a wider audience, the brand encourages partner bars and public drinking spaces to display information about the Friends of Patagonian Forests' conservation programmes.



“ Uma Malta has a strong commitment to the environment. The animals associated with each sub-brand not only highlight the biodiversity in the regions, they also carry a message about keeping it safe. ”

*Guillermo Ramadori
Uma Malta Craft Manager*



Falcons in Herent, Issoudun and Strasbourg

The silo towers at our production sites are very attractive to young falcons, which use the towers as a landing strip. Our plants in Strasbourg and Issoudun have been involved in restoring the local falcon population for several years now. Issoudun started the programme in 2012 and has become one of the most fertile non-natural falcon breeding grounds in France.

This has inspired others and this year the Boortmalt team in Herent has worked with a local NGO, Natuurpunt Vlaanderen, to equip its own falcon facility. This spring, the first three peregrine falcons were born in the nest on top of our Herent silo building.



Focus on upcoming actions

Our vision of sustainable farming for the coming crop seasons is made up of four building blocks: measure through CFT (or equivalent), continue the work with farmers directly, develop programmes with our co-ops, traders, and dealers and, in collaboration with third parties, translate the improvements into additional income for the farmer through certificates and credits.

This transition plan is enabled mainly by our business partnerships with our farming and sourcing partners. Several key cooperatives, merchants and traders are already working with us across the different regions of the world, and we now need to broaden this network. The success of this transition plan does not depend exclusively on our upstream supply chain partnerships. Collaboration with our customers and the farmers' and co-ops' other customers is vital, as it is impossible to decarbonise our supply chain through a single-company approach.



ENERGY EFFICIENCY & EMISSIONS REDUCTION

This chapter focuses on our two-faceted approach to reducing our carbon emissions in line with our SBTi targets.



Approach

First of all, we aim to reduce the energy needed to make a tonne of malt by using more efficient equipment and plants, optimising production schedules and eliminating all energy wastage from the process. Secondly, we aim to transition from mostly fossil-fuel energy to energy from renewable sources.

Energy efficiency

We are industry leaders in this respect, consistently placed in the top three in industry energy-efficiency benchmarking studies. We were the first international malting group to achieve ISO 50001 certification for our energy management system on a group level and are rolling this out to all regions within the Boortmalt footprint.

Each plant has an Energy Roadmap, used by teams in the plant to identify and implement all sorts of energy-saving initiatives as part of the site's allocated maintenance and capex budgets.

“ Transitioning to carbon net zero malting operations necessitates value chain collaborations and entering uncharted territories to build a new energy ecosystem. ”



Peter Willaert, Group Sustainability Manager

Within our approach to energy efficiency, we have two key goals:



Increase energy efficiency by trying new technologies and approaches within all our processes and facilities, and by recuperating heat losses with chemical or traditional heat pumps and innovative heat exchangers.



Reduce and optimise energy consumption through continuous improvement and good housekeeping practices.

Our strategy to reduce energy consumption:

Continuous improvement initiatives encompass for example the replacement of old equipment by new, more energy efficient assets, but could also deal with optimisation and adaptation of production processes, such as tracking data accurately with AI applications to maximise throughput.

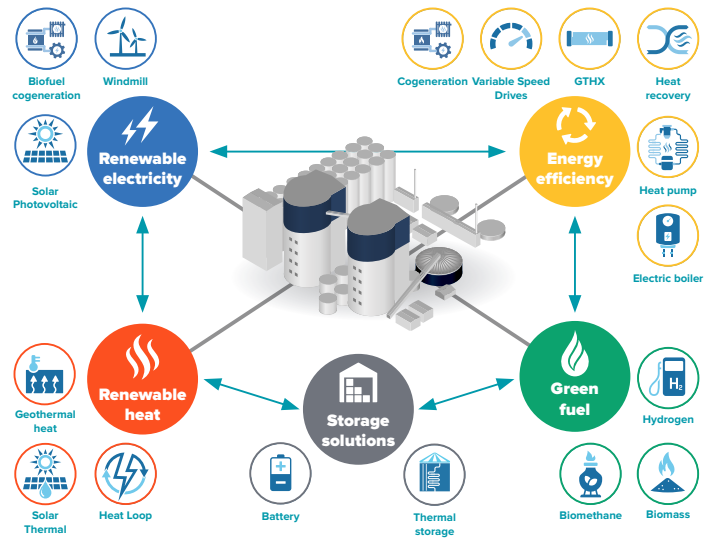
Within the new Boortmalt, the relative energy consumption per mt of malt in APAC for example has fallen more than 5% since FY21, thanks to the implementation of Boortmalt's best operational practice excellence principles (BOPEX).



BOORTMALT CARBON NET-ZERO HORIZON

Last year, we launched Boortmalt’s ambitious Net-Zero Carbon HORIZON, where we analysed at a global footprint level how we will make the energy transition happen, by shifting from mainly fossil fuel energy generation currently to energy from renewable sources.

Transitioning towards carbon-neutral malting operations requires a delicate balancing act between different renewable energy sources while guaranteeing that 100% of our electrical and heat demand is being satisfied at all times.



Emissions reduction: Carbon Net-Zero Horizon

Our approach to energy transition consists of two key goals:



Reduce our dependence on natural gas by using more sustainable forms of heating such as waste heat, solar thermal or biogas, or by electrifying our plants to produce heat from electricity. We also keep up to date with the progress on hydrogen as a fuel source and ensure we procure combined heat and power plants today which are “hydrogen-proof” for the future.



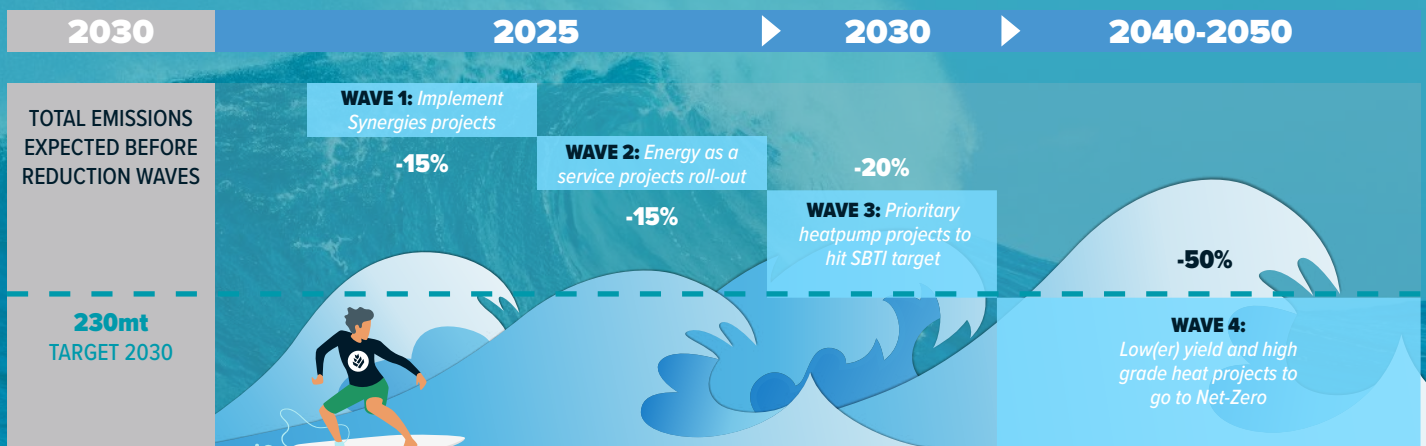
Shift to procuring and generating 100% renewable electricity, with solar PV and wind energy where possible, through on-site or off-site PPA agreements.

The optimal pathways have been identified for each plant and the plan is now being put into action throughout our global operations. Current projects which were implemented during last fiscal year or have been approved for commissioning before 2025 (WAVE 1), will contribute to projected CO₂ savings of over 60,000 tonnes per year under scopes 1 & 2, putting us well on track to reach our intermediate milestone in 2025.

A second wave of projects is under development for implementation by 2027, targeting CO₂ savings of another 15%. The last batch, targeting 20% additional savings has been identified and planned for roll-out in 2027-2029.

Through our “Road to Net-Zero” simulation exercises, we were able to determine the optimal pathway from a cost and carbon-footprint perspective and which technologies need to be deployed at which point, as appropriate to each site’s footprint, country context and energy transition strategy.

Reduction waves





Each project matters to reach net-zero carbon

There is no silver bullet to reduce our emissions. For each plant, we need to find the best combination of techniques for the context and make them work together.

Glass Tube Heat Exchanger

A GTHX is a highly efficient internal heat recuperation system through which the process's hot waste air stream is used to preheat the fresh ambient air. GTHX considerably reduces gas consumption, cutting the plant's carbon emissions.

GTHX also saves electricity by lowering the pressure drop and reducing drying times, and saves heat by eliminating leaks and boosting efficiency. GTHXs are already installed on the majority of our sites and we are continuing to roll out this technology.



Decarbonisation grant for GTHX in Strasbourg

In the malting plant in Strasbourg, France, a new, more efficient glass tube heat exchanger has been installed, guaranteeing waste heat recovery of over 90% and reducing the need for gas to preheat the drying air. This project was implemented with the support of the Strasbourg plant team which sees it not only as an energy-saving project but also as a mindset-changer. Projects such as GTHX involve all employees and catalyse the urgency to find everyday solutions to save energy and unlock efficiency gains in processes.



Boortmalt was recognised for its continuous decarbonisation efforts and received a grant of around €219,000 from the French authorities under the "Recovery Plan" (a.k.a. "France Relance") for the GTHX in Strasbourg.



GTHX and carbon-neutral concrete in Herent

In the malting plant in Herent, we also replaced an old GTHX with a new one which is expected to be almost 92% efficient and to reduce gas and electricity consumption considerably.

Our team in Herent has also been exploring the most environmentally friendly solutions. As a result, they chose to use carbon-neutral concrete supplied by a local business to build a new steeping house.



Heatloop: Antwerp North Heat Network

Recovering waste heat from neighbouring industrial facilities in ports is another interesting opportunity. Waste heat from one industry can be the input heat for another. Forging partnerships with industrial partners will be the critical success factor in reaching industry's decarbonisation goals.

To this end, after five years in development, ground has been broken on the Antwerp heatloop project. The 12km heatloop will bring waste heat from Indaver, the waste incineration plant, to the Boortmalt plant. This project, which will supply the site with approximately half its the heating power, will enable us to cut our installed gas burning power. The Antwerp city authorities intend to extend this heatloop to cover Antwerp city centre to heat homes.

We are also seeking opportunities to engage in heatloop projects in the other regions, for example, in France and the UK.



“GTHX is the leading and most efficient technique for recovering waste heat.

Gert Van Laer
Asset Car and Project Manager Europe



”

New kiln in Buckie

This year we have opened the world's largest kiln, 41 meters in diameter with capacity of 600 tonnes of malt per batch, in Buckie, Scotland. The new kiln boasts economical burner technology, designed to increase energy efficiency.



Boortmalt's expansion, which has been completed within 12 months of breaking ground, will see malt production capacity increase by 50% to approximately 90,000 mt per year. It will also allow Boortmalt to purchase more barley locally in the north of Scotland, supporting local farmers in those areas and decreasing the distance malt and barley will be transported.



2021
score

B

2021
score

B

CDP score B

Boortmalt received a B for as well the supplier engagement as climate change disclosure, which is in the Management band. For supplier engagement, this is higher than the Europe regional average of B-, and higher than the Food & beverage processing sector average of B-. For climate change, this is same as the Europe regional average of B, and higher than the Food & beverage processing sector average of B-.

On-site renewable energy generation

Maximising on-site rooftop solar PV potential is one of the first measures we are aiming to roll out internationally, even though the potential at malting sites is quite limited due to the small roof surfaces. Consequently, securing renewable power through off-site PPA agreements is also of key importance for us.

This year we equipped our site in Sydney with 211 solar panels capable of producing 139,500 kWhp of electricity per year. The panels will meet the complete power needs of the plant's office and laboratory. The solar installation will help decarbonise the site, reducing CO₂ emissions by 2,367 tonnes per year as the majority of the electricity from the grid is produced with coal or gas.



Electrification of the car fleet

Despite growth in our business and a sharp increase in commuting and business travel, we reported no increase in emissions from commuting and business travel compared to our base fiscal year 2021. This is due to an ambitious project to electrify our current car fleet in the UK and continental Europe, enabling our personnel to travel to and from their work locations as sustainably as possible.

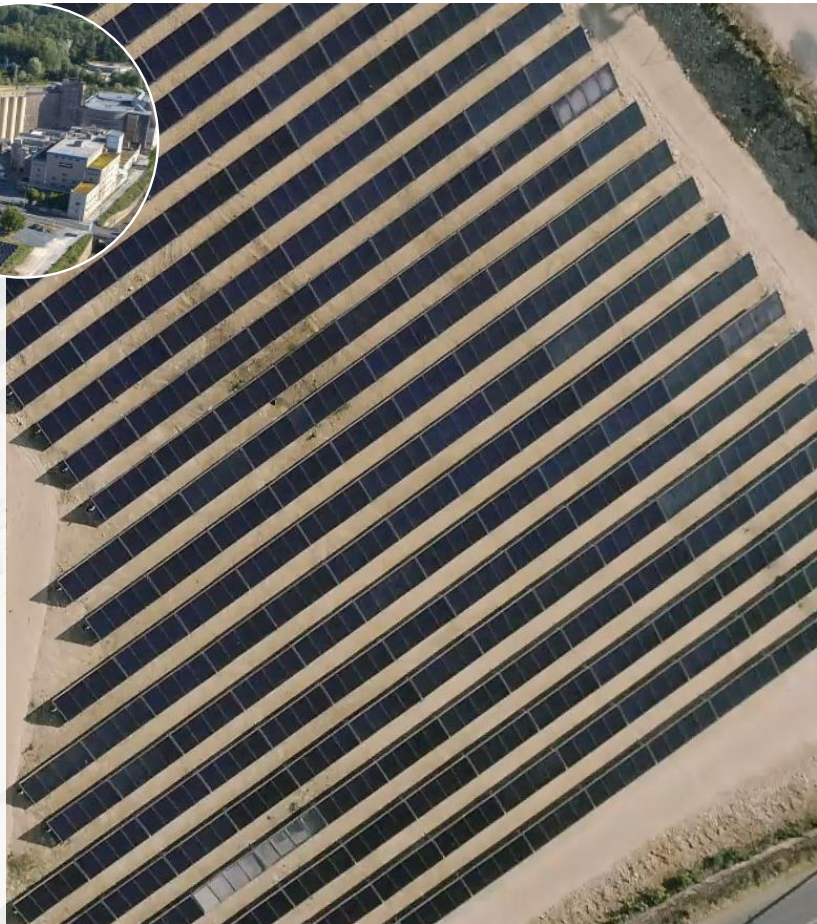
The installation of the carport in Antwerp helped deliver the energy we need to charge our ever-growing electric car fleet. Most of our Antwerp employees can now commute carbon-free, saving over 1,000 tonnes of scope 3 CO₂ emissions per year.



Solar Thermal projects

This year was the first year of full operation for our solar thermal plant in Issoudun. The project in Issoudun is the largest industrial solar plant in Europe and at the time was the 3rd largest in the world. The 15,000m² of panels generated over 9,000MWh of heat, covering almost 10% of the plant's energy needs. Heat produced from solar power helps cut the volume of gas needed for malting and has reduced the site's carbon footprint by 2,000 tonnes of CO₂ per year.

Today, almost half of the plant's energy comes from renewable sources: 10% solar, 23% biomass and 11% cogeneration, with the remainder still supplied by gas. Issoudun has paved the way for further roll-outs of solar thermal solutions in other sunny regions where ample land is available. Solar thermal farms are under evaluation for sunny European countries such as Croatia and Spain, and as well Australia and Argentina. Solar thermal looks like a very promising technology to exploit further!



Combined Heat and Power (CHP) technology in Bahía Blanca

A CHP (Combined Heat and Power) plant uses a variety of technologies and fuels to produce electricity and thermal energy to a high level of efficiency. Under traditional systems, nearly two-thirds of energy is wasted and discharged into the atmosphere as heat during generation, transmission and distribution.

By capturing and using heat that would otherwise go to waste and avoiding distribution losses, CHP plants can achieve efficiencies of more than 90%, compared to 50% for typical technologies (for example, conventional electricity generation and a boiler on site). Thanks to this increased efficiency, CHP plants cut carbon emissions and also increase grid resilience, which is a major challenge on a global scale when transitioning to a carbon neutral grid.

Ten of our sites are already equipped with CHP technology to reduce emissions by saving gas. In countries where grid power is very carbon intensive, a CHP plant can even reduce overall emissions from electricity as well. We ensure that all new CHP systems installed today have the capacity to run on biogas or hydrogen in the near future.



Current CHPs can also be upgraded, such as at Punta Alvear, Argentina

Punta Alvear already had a 6MW CHP. This upgrading project has boosted the plant's performance by increasing its efficiency and power output by 10%, lowering its maintenance costs, and reducing the carbon footprint by 3kg per tonne of malt.

New CHPs will come into operation next year in Bahía Blanca and Perth.



“ CHP technology & hot water smart grids are the perfect lever and backbone for energy efficiency and the future decarbonisation of our maltings. ”

*Gianni Vanneste
Group Energy Optimisation Manager*



Focus on upcoming actions

Our focus for the current year and the months ahead is clearly to keep working on the deployment of our energy reduction initiatives and lift the energy roadmaps to an integrated daily management system in all our sites. On the carbon net-zero horizon programme, the coming year will mark the commissioning of some large scale synergy projects, as part of Wave 1.

Wave 2 projects will enter into the detailed feasibility and engineering phase and wave 3 projects are being entered into the budgets and resources are being aligned to get them into the pipeline for timely implementation. Large-scale decarbonisation projects often require 3-5 years or more throughput time from initial idea formulation until final commissioning, so we are already planning for all the projects which need implementation before 2029.



WATER CONSERVATION

We continuously raise awareness of water conservation and focus on all possible ways to optimise the efficient use of water and where possible, the re-use of treated wastewater. In a world where water scarcity is a reality, we see it as our responsibility to have the most water-efficient malting process in place.

Water consumption per tonne of malt



Approach

At Boortmalt, we are conscious of the effect we have on water systems and how much we depend on good quality potable water. Recent droughts and water shortages all around the globe have shown the drastic challenges that businesses might face if urgent climate and water conservation action is not taken. We are serious about our commitments, and try to look a few steps ahead so we can promote a rapid transition to the best water management practices.

At Boortmalt we promote the use of best practices to maximise water performance and protect the integrity of the water resources that are so vital to us. We apply these not only across our own production, but also outside our premises in local communities, in nature and through farmer initiatives.

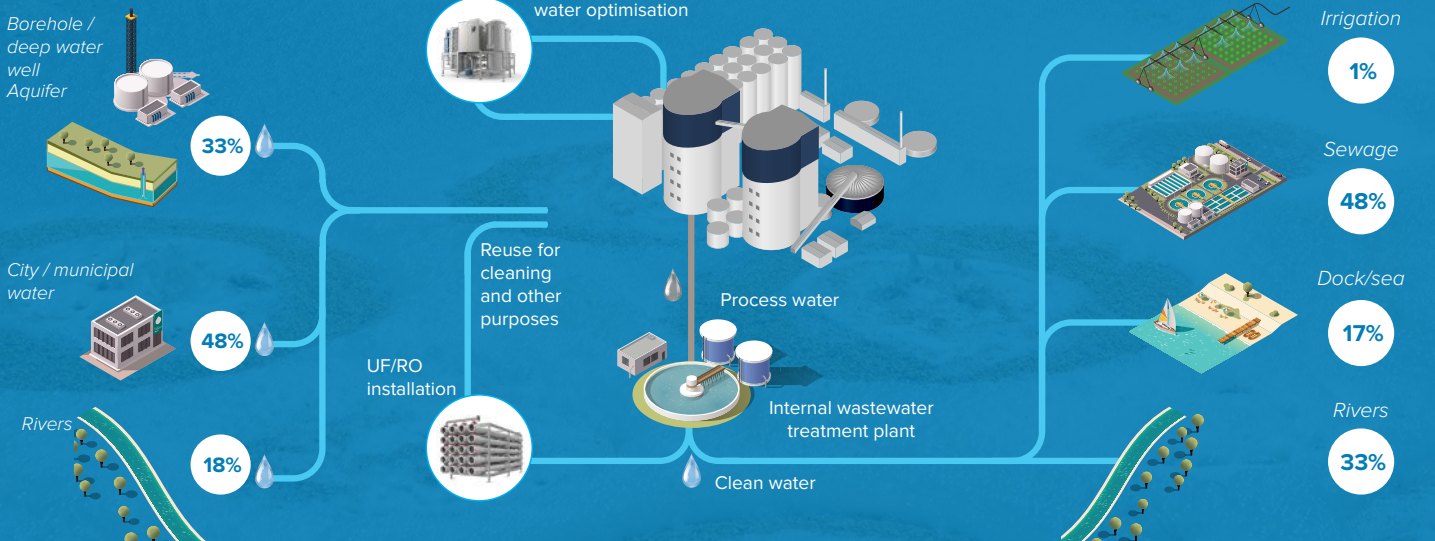
Our water conservation strategy

Boortmalt's average relative water consumption has decreased by approximately 4% this year, demonstrating that we are well on track to hit our water conservation goal. We have achieved this by building on our seven water conservation pillars.

We continue to actively work on our water conservation strategy, aiming to go even further in every field.

- 1 Sustainable sourcing of water**
When choosing a source of water we always consider its sustainability in combination with water treatment and discharge-efficient water use in our malting processes.
- 2 Efficient water-use in our malting processes**
Steeping is the most water-intensive part of our process, so we are continually seeking new ways to reduce the demand for water through techniques like spray steep and Optistee* (special technique).
- 3 Re-use of in-process (waste)water**
When choosing a source of water we always consider its sustainability in combination with water treatment and discharge-efficient water use in our malting processes.
- 4 Adequate treatment of wastewater**
We provide the best water treatment for all our plants and do not release non-purified water into nature or to third parties.
- 5 Sustainable use of our sludge**
We are looking for alternative ways to use our sludge as fertiliser or biomass.
- 6 Returning wastewater to the ecosystem**
Where possible, we return our cleaned wastewater to nature through wadis, rivers and streams or through community systems where it is transformed into potable water or water for irrigation.

Malting water flow





Our current focus at our sites is on reducing the need for fresh water through Optisteeep. This technology is currently in place at Antwerp, Issoudun, Bury, Athy and Port Adelaide, and is being brought in at Biggar and Villaverde. It is expected to reduce water consumption by 25% annually and possibly up to 40% once fully operational in the malt house in which it is installed.

Optisteeep technology: a short summary



Optisteeep is one of the key technologies that we use to cut water consumption in the malting process. Optisteeep increases the speed of moisture intake and improves the enzymatic modification of the barley kernel. This means only a single wet steep process is needed, and overall malt quality and yield are maintained or even improved, cutting steeping process water consumption by up to 40%. Our five malting plants that are already using Optisteeep are achieving high water efficiency. In addition, because the moisture level of the germinated barley is optimised, less energy is required at the kilning stage. This fascinating synergy between water conservation and lower energy consumption is inspiring us to roll out the technology to new sites.

Optisteeep in Adelaide & Villaverde

Replicating the best water management practices across our sites, we have started equipping our plants in Port Adelaide and Villaverde with the Optisteeep system. The expected water savings this will achieve will contribute to our water security at the sites and ensure process continuity.



In addition, as part of our continuous improvement approach, Port Adelaide has also replaced Germination Spray Trees with Spinning Disks for humidification to cut water consumption even further. Deployment was ongoing as this document went to press.

Optisteeep in Biggar

After conducting a water risk assessment, an additional three plants in high water stress areas were chosen for Optisteeep system installations this year. One of them was our plant in Biggar, located in an area which has already felt the effects of increasing global temperatures with droughts, crop failures and water shortages.

Transitioning to any new technology is always challenging, and our team on site has demonstrated an outstanding collaborative achievement in bringing Optisteeep into operation. Having recently installed two Optisteeep units, the Biggar plant is expecting considerable water savings of about 340,000m³ per year as the barley is now immersed in water only once rather than twice.



Better water monitoring

As we introduce new water management technologies, it is vital that we learn and adjust our processes continually.

This year, we have implemented a more robust approach to water data collection by installing meters to monitor incoming water, usage, and outgoing wastewater (where this was not yet in place). This data is translated into metrics that give us a holistic picture of our consumption and the areas and points in the malting process where we can take action to maximise water efficiency across every stage.



“

At Boortmalt, we recognize the importance of freshwater to the environment and local communities, so we strive for the most sustainable water solutions in our processes to protect this valuable resource.



Piet Mijten
Project manager water technologies

”

Rainwater infiltration buffer in Herent

We aim to return as much water to the natural cycle as possible. We take advantage of high precipitation levels in certain countries where we operate to restore groundwater reserves and alleviate seasonal water stress by stopping rainwater from flowing directly to the sea. Our new building in Herent is now equipped with a wadi infiltration buffer filled with rainwater harvested from the roofs of the buildings. Our infiltration pond captures 30m³ of rainwater, contributes to better soil infiltration and supports the integrity of the natural water cycle.



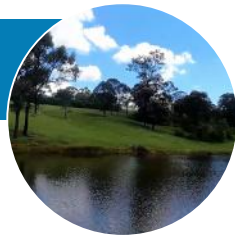
Water discharge for farming in Ethiopia

Maximum water reuse both within our processes and in the communities in which we operate is key to reaching our goals. At our new plant in Debre Birhan, we designed a water management system in line with the latest international standards in water treatment. The water we release into the river is of higher quality than the water available for agriculture in the region. We continue to work together with the local farming community in Debre Birhan to make our water treatment processes transparent and beneficial for our neighbours.





Australian best practice exported to other regions



Our sites in Australia lead the group in reducing their clean water footprint and are our pioneers in deploying reverse osmosis water conservation practices. The plants in Sydney and Perth are achieving well below 2m³ of relative water consumption and we are happy to see a growing acceptance of reverse osmosis by our clients.

Our Sydney plant shows us exactly what can be achieved: it recycles around 72% of wastewater which is then re-injected into the process or used for cleaning. At the end of the process, water runs into the wastewater network and is then treated by the municipal systems to be used for irrigation.

We plan to deploy this technology outside of Australia. To prepare, we are conducting in-depth testing at several of our sites to make sure we continue to deliver the same quality of malt to our customers.



2021 score B

CDP score B

Boortmalt received a B Score in the CDP Water report assessment. This B Score means the company takes coordinated action on water issues. It is in line with the European regional average and the food and beverage processing sector average.



Focus on upcoming actions

In the short-term and medium-term periods, we plan to continue the implementation of OptistEEP to bring considerable reductions in water consumption.

In addition to updating wastewater treatment equipment, we aim to implement wastewater reuse by reverse osmosis treatment where the local regulations allow. Inspired by the synergy of waste and energy consumption reduction, we are developing a new technology that will help to recover water condensate from heat pumps.

This project will prevent the condensate from becoming wastewater, localising it into a separate water stream that could be easily reused in the malting process. Looking more broadly, we are considering decentralised water recovery systems to take our water reuse efficiency to the next level.

SUPPORTING OBJECTIVES



COMMUNITY ENGAGEMENT



EQUALITY, INCLUSION & DIVERSITY



BUSINESS ETHICS &

BOORTMALT SUSTAINABILITY GOALS



CODE OF CONDUCT



WASTE REDUCTION (FOOD)



TRACEABILITY & TRANSPARENCY



COMMUNITY ENGAGEMENT

We believe that our business and the communities in which we operate should be well connected. We are convinced that strong and sustainable communities are the basis of our future and that we, through partnerships and sponsorships, can make a difference together.

FY 21-22 STATUS

2030 OBJECTIVE

44

initiatives

>1

initiative per site
minimum

Approach

Our engagement with local communities reflects Boortmalt's corporate values and is highlighted in our Business Ethics Manual.

The first objective is to ensure that the energy, water, and other resources our facilities need are sourced and consumed sustainably, in a manner that protects the local conditions and circumstances. Our second objective is to partner with local projects that fit our values and sustainability targets to show our commitment to the broader communities. Boortmalt allocates budgets for local engagement projects and adapts to the local context rather than using one-size-fits-all approaches.

Helping talents in Strasbourg

The Strasbourg site belongs to a local business consortium and is actively participating in one of its latest initiatives to promote employment for vulnerable groups. The programme offers young talents access to internships and other job opportunities with consortium members.

The idea is to boost young employees' skills, provide an easy transition to the job market and bring their confidence back. This year our team in Strasbourg welcomed a new employee who assisted with administrative work as a part of the programme.



Reforestation in Ethiopia

Our team has participated in a country-wide tree-planting campaign conducted in Debre Birhan where our plant is located. This is our contribution to the country's pledge to plant five billion tree seedlings. The initiative aims to combat environmental degradation and climate change, build resilience and advance the transition to a green society.



Festive breakfast for schoolchildren in the Netherlands

The Swalmen plant has a longstanding relationship with the local elementary school. The team was happy to sponsor the festive breakfast for all the children organised by parents and teachers on the eve of carnival week. Later in the year, the plant also ran its annual visit during which high school students learn more about the malting process.





Mural for the community in Athy

Boortmalt Athy collaborated with Peter Martin, a local artist, Athy Sing & Sign Club, and Kildare County Council to commission a beautiful mural on one of the external walls of the site. The mural brightens the district and amplifies local identity. The drawing was inspired by Grand Canal, the history of the malt business, and the Patrick Kavanagh poem.

*A swan goes by head low with many apologies,
Fantastic light looks through the eyes of bridges -
And look! a barge comes bringing from Athy
And other far-flung towns mythologies.*



Personal income tax donations for a good cause in Hungary

The team at Dunaujvaros launched an initiative to donate 1% of employees' personal income tax to charity. This is a voluntary initiative – anyone who wishes to do so can help the community through an annual contribution. Staff can choose to give 1% to one of the two partner charities or 2% to help both. The money is transferred to NGOs supporting children's hospitals, schools, kindergartens and nurseries.



Australia's Biggest Morning tea

Melbourne Head Office, Sydney, Port Adelaide and Cavan hosted "Australia's Biggest Morning tea" to raise money to support those impacted by cancer. In addition to donating personally, our employees made cakes and sold them at the company charity bake sale to raise funds for Australia's Cancer Council. The site in Perth makes regular contributions to cancer charities. We are proud of these initiatives and believe that every dollar donated can save lives.

Student visits in Croatia

Every year, students from Karlovac University's Department of Brewing and the Food Technology Faculty in Osijek visit the Slavonija Slad company as part of their field work. The heads of production and the laboratory are on hand to answer their questions and show them around all the production facilities.



The company has been working with these faculties for many years, providing barley samples for food safety analysis and malt samples for beer brewing trials, a partnership which benefits both parties. Slavonija Slad also takes student interns as part of their standard college education, promoting good relations with scientific institutions.

Supporting firefighters in Argentina

The province of Corrientes suffered extensive wildfires that began in December 2021. About 1 million hectares of land burned, affecting local people, flora and fauna. Our team in Punta Alvear supported the volunteer firefighters by donating medicines and products to treat burns.



Supporting the community day-to-day at Knapton

The Knapton plant is always ready to give a helping hand to the community. This year, the team helped repair local streetlights and regularly cleared ice and snow from roads and pathways to reduce the risks for residents. The crossing on the corner of the plant was made safer for pedestrians passing by our site, many of whom are children on their way to and from school.

The site plans to expand its actions, for example by providing high-visibility tabards to the residents who use the shared roadway to walk their dogs and go to school, and by installing an AED (defibrillator) outside the site and making it available to the neighbours should they ever need it.



“We at the Knapton plant see community engagement leading to many positive outcomes and benefits for our organisation and the wider community. As an organisation, we recognise that when we engage with our communities, we make better, more informed decisions, because we all see the bigger picture and the full impact of our projects and initiatives. Done right, community engagement can help develop an even more socially responsible organisation. As a result, we can build trust with community members. This makes them more satisfied with us, our initiatives and our projects.”

David McCombe, Maltings Manager in Knapton

World Environment Day in Argentina

At the Bahía Blanca plant, we organised an activity to mark World Environment Day. We invited a local waste recycling company to come in and train us on waste separation and recycling. The aim was to care for the environment and inspire our employees to take action day-to-day, both at work and at home. We plan to work with this company monthly, and they will be providing us with waste removal and recycling services.



Family Day in Antwerp

In June, we brought together the families of employees from our sites in Swalmen, Herent and Antwerp. In total, more than 300 people visited the Antwerp malthouse and enjoyed the many activities during the day. It was a great opportunity for everyone to come together, find out more about Boortmalt, and bond in a friendly, informal setting.



Helping flood victims in Belgium

Belgium was hit by a disaster in summer 2021 when unprecedented rainfall resulted in devastating flooding across several regions. Many people lost their homes, and tragically some were killed. Several of our employees volunteered to help the Red Cross gather clothing, transport it and redistribute it to flood victims. Team members who were unable to offer practical help committed to making monthly donations to support the Red Cross's indispensable work.



Clean-ups in Canada, the US & Belgium

This year we have organised clean-ups across multiple sites. On World Cleanup Day, the Belgian HR team went plogging (picking up litter while jogging) in a nearby natural area. In the spring, the team from Biggar cleaned up the fence around the plant to benefit the local community and surroundings. Our employees in Sheboygan continue to participate in the US “Adopt a Highway” initiative by keeping the area around a neighbouring highway trash-free.



Sharing lab leftovers with local farmers

The Saskatoon Lab team has been donating our leftover lab malt to a local farmer for a few years now. The malt helps feed his cattle, pigs, chickens and turkeys. We are happy to give back to our agricultural community and care about making our food system sustainable.



Collecting plastic caps to help children in Argentina

Punta Alvear continued participating in the Plastic Cap Recycling Programme to help children. The team collects plastic caps at the office and sends them to a foundation that sells them to a plastic recycling plant as secondary material. The funds raised are used to support an institution for children with particularly serious and complex health problems across all regions of Argentina. This project is beneficial in various ways: it raises funds for charity, boosts plastic waste recycling, encourages people to separate their waste, builds solidarity and empowers civil society, business and institutions to work together and take action on social and environmental issues.



Focus on upcoming actions

We encourage everyone to do more by providing a budget and promoting the creation of annual community engagement plans. Some sites and regions have already started to develop a comprehensive plan for community engagement actions. We are using these as examples for others and now follow up quarterly with every region to make sure people are aware that they can propose projects and share best practices to motivate others.



EQUALITY, INCLUSION & DIVERSITY

Our 1,100+ employees are at the core of our organisation and we consider them as our most important assets. Every day, with unwavering dedication, they contribute to Boortmalt's vision of becoming Masters of Malt.



FY 21-22 STATUS

FEMALE MALE

2030 OBJECTIVES

ExCom: **42%** **58%**

Top management positions: **16%** **84%**

Internal promotions: **>15**

Nationalities: **>40**

0

inequality in opportunities in all our regions

0

inequality in pay in all our regions

Approach

We have developed our diversity, inclusion and equality strategy to support our “Well-being at Work” commitment and in line with the key elements of our materiality analysis.

We embrace all employees, irrespective of their cultural background, religion, experience, age or sexual orientation. We believe that the diversity of all our employees is what makes us stronger as an organisation. Promoting this is not enough, however. Through our equality programmes and our internal talent development strategy we also make sure that people can grow and develop in an equal manner within our company.

Inclusion refers to integrating each Master of Malt in the workplace, allowing their differences to coexist in a mutually beneficial way to make everyone feel accepted and empowered to contribute towards achieving our objectives. We have more than 40 cultures at Boortmalt, and we encourage our people to use this vibrant diversity in the best possible way to achieve our business goals.

Equality in the selection process



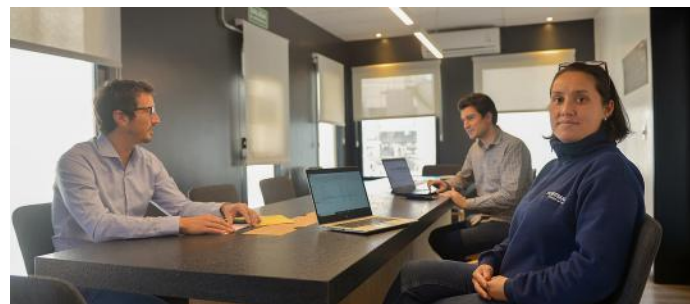
At Boortmalt, all applicants have equal opportunities and will be considered for employment without regard to race, colour, religion, sex, sexual orientation, gender identity, national origin, or veteran or disability status.

We are committed to creating an inclusive environment for all employees, which is why our recruitment process includes best practices to remove bias: our vacancies are written in gender-neutral language, our employer brand showcases our diversity and we have introduced a multi-stakeholder decision process to foster objective decision-making.

We encourage candidates to be themselves, speak truthfully and show their unique personalities during our interviews. At Boortmalt we strongly believe that the person you are at work is also the person you are at home. We therefore encourage everyone to share their personal passions and be their true selves in the workplace.

Equality, Inclusion & Diversity training at Boortmalt UK and Ireland

This year our human resources team in UK and Ireland organised training for the regional leadership team on Equality, Inclusion & Diversity. During the training, we talked about the legal framework in which we operate, raised awareness of unconscious cultural biases and how to deal with them, and discussed ways to build relationships and boost teamwork in a dynamic multicultural environment. We plan to provide similar training in all our regions moving forward.



Internal promotions

We give priority to internal applicants to promote earned growth trajectories. We encourage this by advertising all job openings internally for a period of two weeks before exploring external recruitment channels. This year we awarded more than 15 internal promotions on an average of 80 vacancies over the year.

Equality in opportunities for growth

Developing and retaining talent is part of our human resources strategy and we actively encourage our employees to build a strong and lasting relationship with Boortmalt. We continuously invest in training and education to offer equal opportunities for professional growth.



BOOST, an online and offline learning programme



At Boortmalt, we are committed to supporting the development of our Masters of Malt. Our employees are our most important assets, contributing daily to achieving Boortmalt's vision, mission and strategy. To help them grow and develop, we have introduced BOOST, a global Learning & Development offering. Through it, we empower each Master of Malt to take ownership of their learning journey and steer it in accordance with their personal preferences. BOOST is the "go to" platform for all types of training – online and face-to-face, individual and in groups, internal and external. At Boortmalt we offer a whole-person framework for personal development. The opportunities we provide are designed both to improve job-related hard skills and to support long-term soft skills.

As an employer, we are convinced that we have a role to play in motivating our employees to work on their personal development. Our live training sessions offered through BOOST are open to all employees, regardless of their role or their position in the group. We encourage our Masters of Malt to learn from each other, by bringing together diverse profiles and positions from all layers of the organisation.

We strive to make learning accessible for each Master of Malt. That is why we resolutely opt for a blended learning approach with both an online and a face-to-face learning offering, within which the learning content is also provided in the local language of our people. By doing this, we also embed diversity and inclusion in our learning & development strategy.

Equality in remuneration

We have implemented the Hay grading and corresponding benchmarking tool across all our sites to ensure equal opportunities and equal pay. This year we completed the reassessment process globally to guarantee equal pay for our employees. A compensation and benefits manager has been recruited, supporting the roll-out of initiatives ensuring equal pay.



The reassessment process was performed in line with our new remuneration policy. The policy includes a grading system for defining salary levels for each function, as a number between 1 and 22. At each grade, compensation is based on the regional benchmarks provided by the third party which recognise the accountabilities, capabilities and identity (experience, education, Boortmalt culture) required for the position. By assessing a person's performance within the grading system, we can base remuneration decisions solely on the corresponding salary package for that grade, thereby eliminating the risk of pay inequality.

We are also launching flexible remuneration programmes that will help provide the most favourable incentives for our employees. These include additional retirement and healthcare benefits, extra days off, more flexible work conditions and help with school fees for employees' children.



Talent programme and full performance reviews



We have created the Talent Program, a specific programme to support the development of our employees, Boortmalt's future leaders. It is a multi-year blended learning journey. Our Talent Program consists of two tracks: one where we focus on soft skills development and another where we support progress in work-related hard skills.

The main goal of the talent programme is to help our role models to become better human beings and inspiring leaders. It demonstrates that we place equal importance on all the skills that enable our people to excel as leaders. This programme is a good example of how we embed diversity, inclusion and equality in the way we develop talent, as it includes participants from each of our regions, all with different backgrounds, from different age groups, religions and genders.

Gender equality and **WOMEN**'s empowerment

We take our role of increasing female representation in the malting business seriously. We are therefore very proud that 42% of our ExCom team are female. Nevertheless, in the interests of transparency we acknowledge that overall, only 15% of our people are women so there is still plenty of room for improvement.

One of our goals is to have more gender diversity in the operational roles in our malting plants, positions that have traditionally been held by men. Continuing to adapt our infrastructure and develop and implement policies for internal development and work-life balance will also help us to further improve the gender balance at Boortmalt.

IWD prompts several initiatives

We encourage our employees to celebrate diversity and highlight the importance of gender equality with annual events and everyday actions. This year, our teams across the globe celebrated International Women's Day in their own unique manner.



#Breakingthebias in Australia

In Australia, we celebrated International Women's Day by coming together in different ways, to discuss and pledge our commitment to #breakingthebias. Our Melbourne and Sydney teams took time out to recognise this important day in support of all women globally. Employees established their pledges to help forge a gender-equal world - not just for us, but for all women across the globe.



Brewing for Women's Day

Argentina

On 8 March, our craft brand Uma Malta presented a beer produced collaboratively with the Community of Women Brewers. This project was an opportunity to work together with different brewers, and the money raised from the sale of the beer will be used to expand and professionalise the social project in the Ludueña neighbourhood.



Canada

This year for International Women's Day our team in Canada partnered with one of our customers to organise a Pink Boots Brew Day. The event was dedicated to learning together about brewing and the work of the Pink Boots Society, an association helping to fight breast cancer.

Testimony from one of our leaders

“

I started my career at Boortmalt as a lab analyst 11 years ago. It was my first full-time job after graduation. Having spent four years in the lab, I moved to the position of control room supervisor, where I was the only woman in a team of about 30 men. I felt very comfortable and was treated equally to other colleagues. I'm now working as a Quality and Lab Manager. My role includes managing two labs in Argentina, making sure that the team achieves its targets and provides the quality our customers require. I love my job. I enjoy working in a team, learning from people and challenging myself every day.

Although I work in industry, I don't feel I'm treated differently from male colleagues – we receive the same opportunities and benefits. When I started at Boortmalt, there were only five women at the plant, now there are more than 30 of us. I love the way the gender balance at the plant has shifted, and I hope that more women will join the operations and maintenance departments. I believe that the team is more successful when it is composed of people of different cultures, genders and ages as it leads to diversity in approaches and points of view and helps to achieve better results and outside-the-box thinking.

Women may also be worried about whether they can balance having children and building a career. I was really happy to have the option of flexible working hours and being able to work from home most days when I was taking care of my baby. I never imagined that I could manage both, but at Boortmalt I felt cared for and given opportunities. At the end of the day, it's all about your own time management but no one expects you to be perfect. So rest assured, at Boortmalt you can have a family and a career!



Cecilia Angelozzi

Quality & Lab Manager Latin America



”

Ethiopia

Boortmalt Ethiopia went the extra mile for International Women's Day. Each female employee received a special gift and an individual message recognising their role in our company and in society as a whole.



We currently have female employees working in both the office and the plant. On 8 March, we chose the theme #GenderEquality today for a sustainable tomorrow as we have always been passionate about equality and inclusivity. This can be seen in our staff's engagement in their work and the way they show ownership for the company. All our staff have equal representation and are treated fairly without any gender-based discrimination so that all our female employees feel empowered, and can make the same contribution to the business as the male employees.

Various activities were organised to celebrate the day, with a comprehensive staff well-being and mental health package including strategies for coping with multi-layer internal and external demands.

#ChooseToChallenge

This year UN Women launched a #ChooseToChallenge campaign under the theme "Gender equality today for a sustainable tomorrow". Following the international agenda, we pledged to create a permanent place for the women of Boortmalt where they can speak out in an open and completely anonymous way and challenge the company on Gender Equality and Inclusion at work.



Masters of Well-Being **ENJOY!**

“

For optimal performance, physical, mental and emotional energy levels need to be balanced. The Covid crisis and socio-economic changes are really putting our employees' energy levels to the test these days.

As an employer, we are committed to providing guidance and care to help our employees find their balance.

Sofie Pels - Chief People & Communication Officer

”



We believe in providing a good work-life balance to our employees as it has a positive effect on health, motivation and commitment. It is important to us that employees feel valued and are given the opportunity to keep their work and private lives in balance. Flexible working hours and facilitating parental leave arrangements help us achieve this.

Mental Health and Well-being

Many aspects of mental health have been challenged recently. The combined impact of a difficult economic outlook, the ongoing pandemic, and other factors such as the climate and ecological crisis have increased the demand for mental health support. Stress, worry and anxiety can seem like normal or even unavoidable aspects of modern life in these challenging times.

Thankfully, we are convinced that they are not, and we are committed to investing in better mental health for all our Masters of Malt. That is why we have an employee assistance programme in place in every region and organise campaigns several times a year to draw attention to this important topic.

We have also launched helplines which employees can use anonymously and have prepared information packages in each region. For some people, mental health can still be a difficult topic to discuss and consequently we have run awareness campaigns across our business.

Well-being at Boortmalt

In our seven strategic pillars, we put well-being before being masters of financial performance, as our employees are our most important asset. Their energy, creativity and expertise help us build a more competitive and sustainable malting business and their wellbeing is one of our top priorities. At Boortmalt we care deeply about our employees. With our well-being programme, we have always advocated strongly for mental health and well-being.



Focus on upcoming actions

Inflation tends to increase possible inequalities in society. Solving the inflation challenge is essential as we build a company that adds value in the broader sense where employees can find purpose and grow. Company will therefore take the necessary steps to engineer creative solutions to fight against inflation and inequalities.

To take care of our employees and their well-being at work, the best tool is listening. Thus, we plan to collect feedback from employees on many subjects concerning their daily life at work, to detect areas where the company is succeeding, and where it could improve.

These actions will be implemented in all our regions, and for all our employees

BUSINESS ETHICS

at Boortmalt & our suppliers

We commit to conducting business in an ethical manner. We all stand by our Business Ethics Manual, which is an extended version of the Axereal code of conduct, and expect the same behaviour from our business partners.

FY 21-22 STATUS

100
employees trained

2030 OBJECTIVES

100%
employees following
our business
ethics

100%
contracts including
our code of
conduct

Approach

Boortmalt stands for good ethical behaviour which is integrated into our corporate values. When engaging with our colleagues, third parties, customers and suppliers, we use our five principles of ethical business conduct: Trust & Integrity, Accountability, Compliance, Dignity & Respect, Openness & Honesty. This helps us protect and further enhance both our own good reputation and those of our stakeholders. Our company's values and ethical practices are captured in our business ethics manual and promoted across all our sites. We expect our employees and others acting on behalf of Boortmalt to embody these principles, always.

At Boortmalt we set the example and believe that our business ethics and sustainability programmes must be taken beyond the boundaries of our own organisation. As such, our Supplier Code of Conduct is closely aligned with our values and our environmental standards and targets. We expect our partners to be equally motivated to meet these standards and to drive sustainable business practices. We see it as our shared responsibility to do business in an ethical and sustainable manner.



“Explicit codes of conduct are required for all of us to have the same definition of probity.”

Yvan Schaepman
Group CEO



Sedex
Community

Supplier Ethical Data Exchange

Our commitment to business ethics is also reflected in our continued membership of Sedex (Supplier Ethical Data Exchange). We maintain our data on ethical & responsible practices on this platform and share it with our customers.

We have been successfully recognised as an ethical supplier through the Sedex process of independent external SMETA audits which cover Labour Standards, Health and Safety, Environment and Business Practices.

Business ethics training

Last year we launched our new code of conduct. This year we completed business ethics training for our ExCom and commercial teams resulting in 100 employees being fully educated about our new business ethics manual and aligning their daily activities with the new requirements. Starting from top management allows us to provide information and guidance on the riskiest situations in terms of business ethics and compliance, while at the same time receiving feedback to optimise our training for further roll-out. We have a full plan in place to expand training on business ethics as well as other compliance topics like GDPR and anti-trust to all our employees through digital online training.

The Boortmalt Business Ethics Manual is designed as a set of recommendations to direct our business behaviour. It provides practical guidance, examples and references to further useful information.



New Supplier Code of Conduct

When developing the new Supplier Code of Conduct, we wanted to make sure that it captured our responsible purchasing approach spanning legal compliance and people as well as environmental standards in a balanced way. It reflects our commitment to the highest standards of business integrity and clearly stipulates that we will not tolerate any practices that are inconsistent with the principles of Honesty, Integrity, Transparency and Fairness. The Code covers twelve key topics including Business Ethics, Environmental Policies, Prohibition of Corruption and Bribery, Respect for the Basic Human Rights of Employees, Health & Safety of Employees and Supply Chain Diversity.

Driving our business in a sustainable manner can only be successful if our suppliers accompany us on our journey. We therefore expect our partners to do more than just meet the applicable statutory and international standards regarding environmental protection. We expect them to have their own environmental sustainability policy aiming to minimise the environmental impact of their operations. As such, our Supplier Code of Conduct is also a tool for promoting transparency in data collection and data sharing.



Focus on upcoming actions

We designed our first on-line compliance training programme to provide education to a broader category of employees on four key topics: anti-corruption, fraud, anti-trust and GDPR. The programme includes the development of training sessions that will be available online. The system will offer testing and record who has followed the training. The roll-out is adjusted to each department's needs and potential challenges in terms of business ethics. The first wave of training will start this year. Moving forward, new employees will be asked to take the training and we will run a refresher every two years.

As we have operations in France, we fall within the scope of the Sapin II law which requires French companies, and global corporations operating in France, to take measures to prevent and detect acts of corruption or influence peddling, in France and abroad. To meet the expectations of the Agence Française Anticorruption (AFA) we use a third-party evaluation procedure to target our corruption prevention efforts.

WASTE REDUCTION

We are continuously optimising our yield and finding alternative uses for our by-products, thereby contributing to the overall UN goal of halving food waste globally by 2030. In addition, we also aim to reduce waste by using only fully recyclable and recycled packaging materials.

FY 21-22 STATUS

2030 OBJECTIVE



Approach

Globally, around a third of food is wasted. The Intergovernmental Panel on Climate Change (IPCC) states that food waste is responsible for 8% to 10% of total global greenhouse gas emissions. At Boortmalt we do better. As malt producers, we reuse the majority of our process “waste” as by-products. The organic waste flows, such as small barley and malt culms, are used as fodder for livestock, as they are rich in protein. The remaining food waste flows are used as fertiliser or biomass and contribute to energy production in our own or external facilities. All other waste should be separated so it can be recycled. Currently, our organic waste stands at just 0.7%, and our landfill at 0.04%. Yet there is room for improvement.

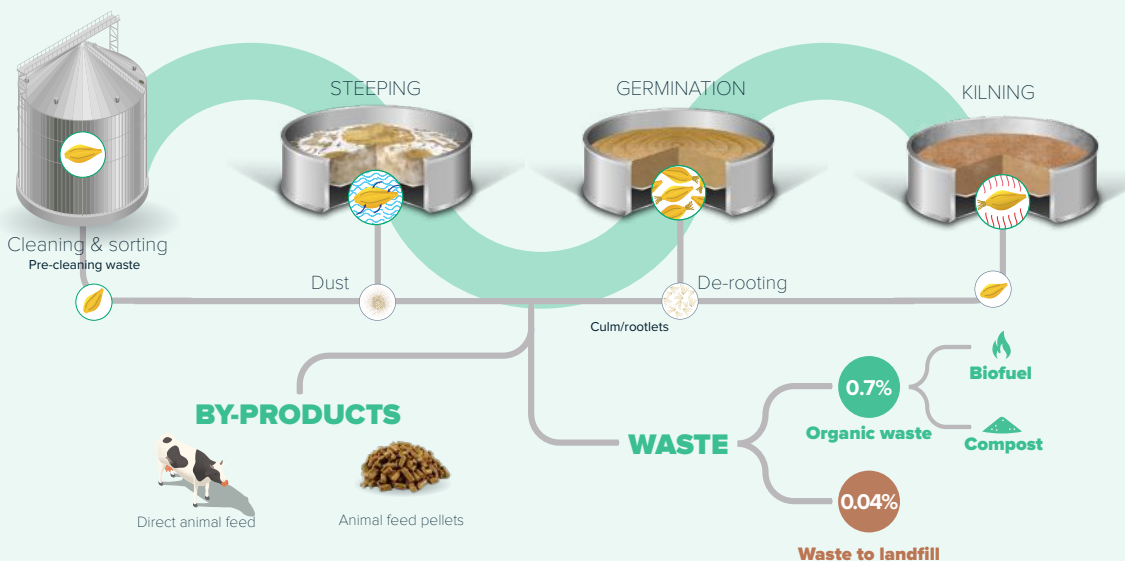
Our major waste streams are barley scraps, wastewater sludge and the packaging we use to transport some of our malt. There is a strategy in place to minimise each of these, so that we’re constantly working towards our goal of zero waste to landfill.

Key achievements FY 2022

This year we initiated a comprehensive review of our waste flows by collecting robust data from all our sites. From this, we have identified fourteen specific sub-categories of waste belonging to one of the three major waste streams. This detailed information has given us insights to finetune our processes and we are discovering new avenues for reusing our waste and closing the loop. The data analysis encourages us to not consider barley scraps and rootlets as waste but as by-products with an economic and nutritional value as animal feed. Our innovation team is also identifying new potential applications for our waste.

We ensure that our waste treatment processes comply with the latest local and international environmental standards such as ISO 14001.

Malting flow



TRANSPORTED VOLUMES





Plastic packaging

Majority of incoming barley and wheat is transported in bulk so we have no packaging linked to our raw materials. Outbound, we make as much use as possible of bulk trucks, bulk ships, barges and rail freight wagons. But we still use plastic bags and big bags for our craft products, liners for our containers and silo bags for the bulk storage of barley. To make sure that the packaging is 100% recyclable, we use polypropylene and LDPE materials.

Wastewater sludge

Cleaning all our water before discharge produces sludge. As it is very natural with a high organic or suspended solids content it is useful as fertiliser, or in composting, biogas and energy production facilities. For example, our plant in Ethiopia works with local agricultural businesses, delivering our sludge to produce natural fertilisers. Moving forward, by prioritising biological digestion of the wastewater sludge, we also aim to establish circular relationships with our agricultural partners and energy providers in all regions.

Waste composting and recycling in Argentina

Our innovation centre in Argentina has organised several activities to reduce the impact of organic waste from its laboratory and educate co-workers about composting. The first was setting up composting facilities at the laboratory to reduce the waste impact of the experiments performed. The second was a series of two seminars held for all employees at Punta Alvear to raise awareness of the importance of disposing of food scraps and waste responsibly, both at work and at home. To generate interest, the team organised a prize draw to win bags of high-quality compost that our employees can use as fertiliser in their gardens. These activities encouraged our teams to take action on food waste production and work together to transform our operations.



“Espiritu Potenciador”

The two major ingredients for producing malt are barley and water, therefore, our production facilities do not release any hazardous or toxic waste. We are also aware that barley is an important source of protein. We have been looking at a new use of our malt and its waste stream and next year we are launching a new product called “Espiritu Potenciador”. This product from malt husk will replace rice husk and help craft brewers to manage filtration brews with a lot of wheat and also high gravity brews.

Recycling packaging in Ethiopia

At our site in Ethiopia, we have established a closed-loop system for distributing and collecting the bags used to transport barley. Our agricultural team works directly with 30,000 partner farmers and supplies them all with bags to deliver barley to our plant in Debre Birhan. We check all the bags after use: those in perfect condition go back to the farmers, while the rest are recycled with the help of our local partner.



Waste separation

After looking at the example of waste separation in Adelaide last year, this year we are going to Argentina where a team from our Bahía Blanca plant met with the local waste recycling company. The company then carried out training on waste separation and recycling on World Environment Day. As a result of this activity, the site is now recycling all its waste, which is collected monthly.

Shifting to more bulk in Australia

When goods are shipped internationally in containers, liners have to be used. Shifting to bulk vessels is a good way to eliminate them. This year, our supply chain team in Australia organised more bulk shipments, moving away from the traditional container ships. By using less packing material, they cut their carbon emissions: 30,000 fewer liners for 40-foot containers = 102,000kg CO₂ emissions saved.



Upcycling Uma Malta bags in Argentina

As producers of craft malt, we are conscious of the environmental impact of the plastic bags that we use to deliver our product to craft clients. In collaboration with a local NGO, our creative team in Argentina took ownership of the packaging generated by the Uma Malta craft brand. The NGO now transforms the bags into new accessories, upcycling them into backpacks, beach, sport and waist bags that are waterproof, resilient to damage and unique in design. The bags are hand-made by female artisans from a local foundation employing people in vulnerable situations. Not only do these “new” products display Uma Malta’s brand identity, they also demonstrate Boortmalt’s commitment to sustainability, empowerment and inclusion. We aim to establish closed-loop projects with our craft clients around the world by collecting craft bags from them and looking for ways to work with local third parties to upcycle the materials into new bags or use them in other ways.

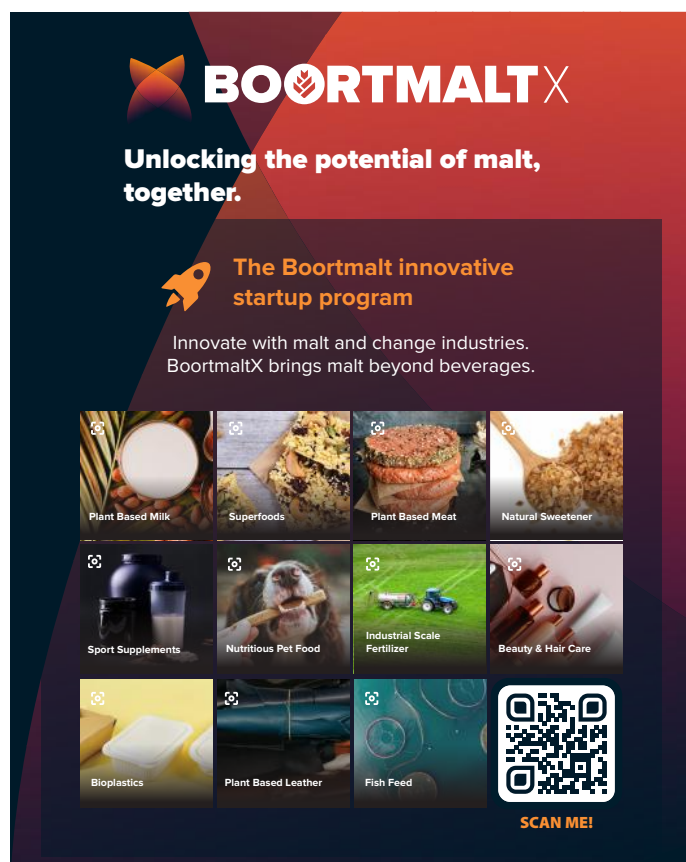


Recycling in Argentina

In Punta Alvear, some of our barley is stored in long silo bags. These are fully recycled by our packaging provider who collects them when we have finished using them. This is a new process, tested this year. It cuts storage costs and reduces our logistics footprint.

BoortmaltX

During the year we launched BoortmaltX, a corporate venture arm that aims to take malt beyond the bounds of beverages. We are working with the world’s most promising innovative startups and companies, preparing to explore 15 new value spaces for malt and its by-products. BoortmaltX will look at ways to take advantage of the rich protein content of the by-products in food and non-food applications, rather than simply using them to generate energy. Potential value spaces for by-products could include vegan plant-based leather, fish feed, bioplastics and mycelium. We invite like-minded innovators to get involved and support them with our expertise and resources while learning together on our journey to a sustainable future. Find out more about BoortmaltX and suggest partnerships on the project’s website.



BOORTMALT X

Unlocking the potential of malt, together.

The Boortmalt innovative startup program

Innovate with malt and change industries. BoortmaltX brings malt beyond beverages.

Plant Based Milk	Superfoods	Plant Based Meat	Natural Sweetener
Sport Supplements	Nutritious Pet Food	Industrial Scale Fertilizer	Beauty & Hair Care
Bioplastics	Plant Based Leather	Fish Feed	QR CODE

SCAN ME!

Focus on upcoming actions

We will continue to focus on finding alternative uses for our by-products, keeping them in the food chain wherever possible. With BoortmaltX, we will start developing new innovative applications for the food waste we have.

Our scope 3 is a challenge that will also require more engagement with our customers. This will include not only using our products in their production processes and malt logistics but also recycling our bags and liners.



TRACEABILITY & TRANSPARENCY

As the global leader in malt production, we are fully aware of our responsibility to continuously innovate and strengthen collaborations in our value chain. With our traceability and transparency solutions we aim to provide detailed insight to end consumers and unlock extra value throughout our supply chain.

FY 21-22 STATUS

100%

malt traceable
in line with Food
Safety requirement

2030 OBJECTIVE

100%

verified traceability
& transparency
on malt



Approach

By using technology, we will be able to let stakeholders know not only where the grain comes from but also how it is produced and by whom. For certain customers and specific crops, we provide different types of information including the origin of the barley grown, whether it was produced organically, its carbon footprint, and we highlight the good working conditions of our farmers.

Our transparency goes beyond providing information on the barley and the farmer. As a leader in sustainable malt, we believe that measurable performance is the basis for sharing progress on our sustainability programme in a clear and auditable manner. Our roadmap to digitisation will allow us not only to communicate internally and externally but also to analyse, learn, improve and share best practices.

A unique collaboration in Australia

Joe White Maltings launched its new signature range this year. The range represents a unique collaboration between Australian farmers, Joe White Maltings and a local brewing company resulting in the creation of an Australian wheat ale that can trace its history from A to Z. Local farmers, who have been our partners since 1989 and supply the barley, described seeing the barley harvested with their own hands transformed into a locally brewed beer as “quite exciting”, saying “It’s your product you can follow right from header to glass”. Our long-standing relationship with them is crucial to making a fully traceable high-quality malt.



Transparency in the supply chain

Single-source barley in Australia

Joe White Malting, our craft brand in Australia, has been working on single-source malt ranges for four years now. The “one variety, one source, one malthouse” principle ensures full traceability of the supply chain from farm to brewer. The development of single-source malt ranges is driven by the shared passion and commitment of farmers, maltsters and brewers and the close and trusting relationships maintained over the years. Joe White Signature Malt ranges use ISCC Certified Sustainable barley.





Route du malt

“Route du malt” is an initiative developed by Belgomalt Pure Local, our regenerative farming brand, to invite people to experience the malt route for themselves. “Route du malt” has 13 different hiking and biking trails through the beautiful region around Gembloux, Belgium. Anyone interested in seeing Pure Local barley fields, farms and partner breweries can take part. Thanks to local sourcing, we can make traceability concrete and carry out projects like “Route du malt”. Visit the website to sign up for one of the tours!



Belgomalt Pure Local has developed an integrated supply chain connecting farmers to brewers to promote the use of locally grown and fully traceable barley in Belgium. The project has expanded the network of farmers from four to 38 participants within four years. We are proud to work on this project together with our dedicated farming partners and learn alongside them. We aim to expand our network of farmers and facilitate a faster transition from conventional farming practices to regenerative ones by putting incentives in place to motivate our partners to join the programme.

Farmer cooperation in Scotland

Our team in Buckie is contracting directly with the local grain group which includes 139 different farmers within a 40-mile radius of the plant. We have been working with this group for many years and are now engaging with them on the global challenge of sustainable, low carbon farming.



For this, we work with them to assess how best to provide reports on farming practices and the carbon emissions of malting barley. By assessing the whole farm, we want to build full visibility of the carbon footprint from the field to the distiller or brewer. We also create opportunities for the farmer to use this data for other crops and customers. Together we will be looking at ways to make the data available and capture it through digital solutions.

Transparency through meetings with our partners

At Boortmalt we work to build personal connections with our partners and face-to-face communication is key to this. This year, our plants in Argentina and Europe have organised meetings and site visits to give more than 45 of our customers and suppliers a detailed overview of our work and the values we live.

During a four-day event organised in Antwerp, our malt customers from Europe learned about the varieties of barley, the malting process, craft malt, malt innovation and sustainability. Such meetings provide a transparent malt experience and create a space for better cooperation where we can learn from our partners’ feedback.





Transparency through our systems

Spotlight on Strasbourg

Our site in Strasbourg has been using a Malt Plant Production IT system to provide full traceability from the farmer to the distiller or brewer for more than ten years. This tool has been designed especially for maltsters and is unique to our organisation. It is a big database incorporating data on everything linked to barley sourcing and the inbound and outbound movement of malt.

Combined with close communication with our customers and farmers, it supports full digital supply chain traceability and covers not just our site in Strasbourg but also other crops and customers. Together we will be looking at ways to make the data available and capture it through digital solutions.



“ Building long-lasting partnerships is key to creating sustainable, traceable and transparent supply chains. But at the same time we also need to make sure we digitise our supply chain. ”



*Koenraad Dumont,
Chief Commercial & Innovation Officer*

Focus on upcoming actions

Transparency in the chain: Over the coming years we will be working with our farmers, co-ops, traders and third parties on the transparency of their sustainable practices, footprints and water consumption. This will go hand in hand with our objectives of reducing global warming by taking out the emissions and even sequestering carbon in our end-to-gate supply chain.

Transparency on key sustainability data: We are adding more elements and metrics to our BI data dashboard with the aim of having all elements of our sustainability journey captured and reported through our central tool. The biggest challenge we face is capturing the CO₂ data linked to farming. For this we have started using CFT and we have tested out two apps to gather the data. Learn more about this in our “sustainable farming” chapter.

Transparency in achieving our climate goals

External transparency

Disclosing information on our sustainability progress is essential. We continue to report through CDP, the global not-for-profit organisation that encourages companies to measure and disclose their environmental impacts.

CDP uses an independent scoring methodology to assess the comprehensiveness of the disclosure, awareness and management of environmental risks. This year Boortmalt has moved from a B- to a B score for CDP Water management reporting and maintained a B score for both Climate Change and Supplier Engagement.

We are proud to see our progress also reflected in our reporting.



Internal transparency

Robust data collection is a challenge in any company. Over the last two years a lot of effort has gone into standardising and aligning reporting methods across our 27 sites, and we are proud that we now have an internal BI platform and report that brings all this information together in a robust and comprehensive manner.

The key metrics are there, and we continue to broaden the scope as we drive our sustainability programme forward.

METRICS SUMMARY

4 CORE PROGRAMMES		FY 20-21	FY 21-22	OBJECTIVE 2030
Health & Safety	Sites injury free	68%	76%	100%
	☑ Reportable injury frequency rate (RIFR)* ¹	7.76	6.22	0
Sustainable farming	☑ SAI or equivalent certified Europe	40%* ²	43%	95%
	☑ SAI or equivalent certified all other regions	17%* ²	20%	50%
	☑ % Barley volume emissions & methods captured through CFT or equivalent with the aim to reduce the footprint	5%	3% (7%)* ³	> 67%
Energy use & Emissions reduction	☑ Kg CO ₂ Emissions per metric ton of Malt	157kg	155kgCO ₂	-50%
	☑ Absolute GHG emissions Scope 1 & 2	396,238mtCO ₂	425,235mtCO ₂	-42%
	☑ Scope 1 / metric ton*	131 kgCO ₂	130.5kgCO ₂	79kg/mt
	☑ Scope 2 / metric ton*	26kgCO ₂	24.5kgCO ₂	0kg/mt
	☑ Scope 3.1 emissions from barley purchased / mt of Malt	362kgCO ₂ * ⁴	362kgCO ₂	-25% (-35%* ⁵)
	☑ Scope 3.4 and 3.9 logistics upstream and downstream (in-out) / metric ton of malt	15 + 40kgCO ₂	20.9 + 41.7kgCO ₂	-25%
	☑ Emissions / metric ton of malt (Scope 1, 2, 3.1, 3.4 & 3.9)	N/A	0.6tCO ₂	No target
Water conservation	Water withdrawal m ³ / metric ton	3.3	3.2	No target
	☑ Water consumption m ³ / metric ton*	2.90	2.79	< 2 (-30%)

5 SUPPORTING PROGRAMMES		FY 20-21	FY 21-22	OBJECTIVE 2030
Community engagement	# of initiatives	30	44	+ 30, min 1 per site.
Equality, inclusion & diversity	% men - women in Excom	42-58	42-58	Equal Pay, people, promotion
	% men - women in top management positions	N/A	16%	
	# of nationalities represented	> 40	> 40	
	Equal opportunity: promotions from within	N/A	> 15	
Business ethics & Code of conduct	Ethics manual	New manual	100 employees educated	100% of employees know and follow it
	☑ % Supplier code of conduct (global contracts)	100%	100%	100%
	% Supplier code of conduct (local contracts)	0%	0%	100%
Waste reduction: Malting	☑ % Waste going to landfill	0.04%	0.04%	0%
Traceability & Transparency	☑ All malt traceable in line with Food Safety requirements	100%	100%	100%
	mt traceable and transparent on the market through projects	2 projects	2 projects	No target

☑ Audited by KPMG fiscal year 21-22, full audit report with limited assurance level

*1 Recordable Injury Frequency Rate (RIFR) is calculated as the number of recordable injuries divided by total workforce hours and multiplied by a million. A recordable injury is a work-related injury requiring treatment beyond First Aid.

*2 SAI or equivalent certified Europe and all other regions: update the FY20-21 figure with the latest figure.

*3 As the data input is ongoing, the percentage of barley volume captured in CFT and equivalent currently stands at 3%. However, it is expected to reach 7% for crop year 21 once all data has been entered.

*4 Scope 3 Emissions from barley purchased / metric ton of malt: emission factor of each region is adopted based on published reports from established bodies and on the internal study via the Cool Farm Tool assessment. The FY20-21 figure has been updated by using the emission factor we adopted for FY21-22.

*5 Emissions from barley purchased reduction objectives: a reduction of 35% in the emissions from barley by 2030 is based on the STBI guideline published this year (2022) for FLAG science based targets. Boortmalt is reviewing this objective.

CERTIFICATIONS & MEMBERSHIPS

To help us achieve and demonstrate our commitments and ensure consistency across all our locations, we have chosen to align our operations with several key certifications, memberships and reporting standards. By evaluating our risks and opportunities, we have built a certification management system to ensure we comply with all legal, regulatory and business requirements. This system is reinforced by programmes that focus on people and planet and align with our sustainability commitments. In addition, we use the diversity in our locations to better understand the many different requirements and to share best practices and learnings.

FOOD SAFETY ISO/FSCC 22000



We take the safety of our products, whether for human or animal consumption, very seriously and have chosen to achieve ISO/FSCC 22000 certification at all our locations to ensure that we are producing safe, high-quality malt and feed. This enables us to provide our customers with the assurance and information they need for the ingredients that go into the products they supply to consumers or animals. We currently have 17 sites certified. Athy and Cavan will be added in 2022, with all other plants following in 2023.

FOOD QUALITY Organic Certification



We achieved organic certification for 7 of our malting plants. In addition, Athy meets the requirements of the local Origin Green programme, which aims to help the food industry set and achieve measurable sustainability targets.



HEALTH & SAFETY ISO 45001



We are committed to providing a safe workplace for all our employees, contractors and anyone who visits our sites. ISO 45001 certification stands alongside legal and business requirements to offer a framework for building and promoting a robust health and safety system. This certification is a commitment to our teams and a statement that we care equally about internal and external people. The programme has been rolled out to seven sites, with more to come.

ENVIRONMENT ISO 14001



We use the ISO 14001 principles to assess and manage our impacts on the environment and to comply with all local requirements. With a focus on resource usage, reducing emissions and waste, environmental certification cements the practices that we have implemented. We currently have 14 sites certified. Sydney and Perth will be added in 2022 and the roll-out will continue in 2023.



“

At Boortmalt, we are continuing the roll-out of our comprehensive certification programme, to enable us to achieve our business objectives and sustainability goals and maintain compliance.



”

Julie Testi - Group Business Standards Manager

CLIMATE CHANGE & WATER MANAGEMENT



To align our environmental efforts with external frameworks, we report annually to CDP and aim to improve every year until we reach A-status across all three.

CDP SCORE REPORT:

Climate Change 2021



Supplier Engagement 2021



Water Security 2021



ENERGY ISO 50001



Energy use is a very important pillar of our sustainability strategy and we have therefore chosen ISO 50001 certification to give structure to our energy management programme. We use it to identify our energy hotspots and provide a framework for our design and procurement strategies. We currently have 12 sites certified. Sydney and Perth will be added in 2022 and the roll-out will continue in 2023.

FARMING PRACTICES SAI & Equivalents

In every region, we work closely with external partners and co-ops/traders on farmer certification, often in alignment with customer needs. All the partnerships are SAI validated and meet the FSA requirements of SAI Silver as a minimum. They include: Irish Grain Assurance Scheme (IGAS) in Ireland, Red Tractor in the UK, Scottish Quality Crops (SQC) in Scotland, CultivUp, Agriconfiance and Irtac in France and Croatia, SAI FSA in Argentina and ISCC in Australia.

Cool Farm Tool



We are a member of the Cool Farm Alliance and use the Cool Farm Tool to capture our farmers' operations to get better insights into the carbon footprint of the barley we procure. This information is then pooled and used for benchmarking so that we can share best practices to drive improvements across all farms.



GRI STANDARDS CONTENT INDEX

Boortmalt’s reporting on sustainability and corporate social responsibility is based on the Global Reporting Initiative (GRI) Standards. In our opinion, our reporting generally corresponds to GRI’s reporting principles and the report has been prepared in accordance with the GRI Standards: Core level.

Correspondence between the GRI standards and the Sustainable Development Goals was established following the “Linking the SDGs and the GRI Standards” document.

Disclosure Number	Disclosure Name	Source
2-1	Organizational details	Sustainability Report p.1, 6, 7 The Boortmalt Group is a fully owned subsidiary of the agricultural and agribusiness cooperative Axereal. https://www.boortmalt.com/en
2-2	Entities included in the organization's sustainability reporting	Sustainability Report p.6 - email
2-3	Reporting period, frequency and contact point	Sustainability Report p.3
2-4	Restatements of information	Sustainability Report p. 57
2-5	External assurance	Sustainability Report p. 57
2-6	Activities, value chain and other business relationships	Sustainability Report p.12, 13
2-7	Employees	Sustainability Report p.44
2-22	Statement on sustainable development strategy	Sustainability Report p. 11
2-23	Policy commitments	Sustainability Report p.48
2-24	Embedding policy commitments	Sustainability Report p.48
2-26	Mechanisms for seeking advice and raising concerns	Sustainability Report p.18, 48, 55
2-28	Membership associations	Sustainability Report p.18, 22, 23, 48, 58, 59
2-31	Process to determine material topics	The process to determine material topics was explained in our 2021 Sustainability Report in “Our material issues”, p.13
3-2	List of material topics	Our list of material topics was mentioned in our 2021 Sustainability Report in “Our material issues” Reference to: Boortmalt Sustainability Report 2021, p.13
3-3	Management of material topics	Management of material topics was mentioned in our 2021 Sustainability Report in “Our material issues” Reference to: Boortmalt Sustainability Report 2021, p.13
Economic standards		
201-1	Direct economic value generated and distributed	Mentioned in Axereal Group Integrated Report p.36, 37
201-4	Financial assistance received from government	Sustainability Report p.30
203-1	Infrastructure investments and services supported	Sustainability Report p.30-33, 35, 36
203-2	Significant indirect economic impacts	Sustainability Report p.40,43
Environmental standards		
301-1	Material used by weight or volume	Sustainability Report p.50
301-2	Recycled input materials used	Sustainability Report p.50, 51, 52
302-1	Energy consumption within the organization	Sustainability Report p.57
302-3	Energy intensity	Sustainability Report p.12, 13, 28, 57
302-4	Reduction of energy consumption	Sustainability Report p.28-30, 32, 33
302-5	Reductions in energy requirements of products and services	Sustainability Report p.28, 29
303-1	Interactions with water as a shared resource	Sustainability Report p.34-37
303-2	Management of water discharge-related impacts	Sustainability Report p.34, 36, 37
303-3	Water withdrawal	Sustainability Report p.34, 57
303-4	Water discharge	Sustainability Report p.34
303-5	Water consumption	Sustainability Report p.34, 57

GRI: Global Reporting Initiative

The GRI is an international, multi-stakeholder and independent non-profit organisation that promotes economic, environmental and social sustainability. The GRI was established in 1997 in partnership with the United Nations' Environment Programme (UNEP). The organisation has developed Sustainability Reporting Guidelines that strive to increase the transparency

and accountability of economic, environmental, and social performance and provides all companies and organisations with a comprehensive sustainability reporting framework that is widely used around the world. Since 2016, the GRI guidelines also include references to the UN Sustainable Development Goals (SDGs).



304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	Sustainability Report p.26, 27
304-2	Significant impacts of activities, products, and services on biodiversity	Sustainability Report p.26, 27
304-3	Habitats protected or restored	Sustainability Report p.26, 27
305-1	Direct (Scope 1) GHG emissions	Sustainability Report p.57
305-2	Energy indirect (Scope 2) GHG emissions	Sustainability Report p.57
305-3	Other indirect (Scope 3) GHG emissions	Sustainability Report p.57
305-4	GHG emissions intensity	Sustainability Report p.12, 13, 28, 57
305-5	Reduction of GHG emissions	Sustainability Report p.24, 28, 29, 32, 33
306-1	Waste generation and significant waste-related impacts	Sustainability Report p.50
306-2	Management of significant waste-related impacts	Sustainability Report p.50, 51, 52
306-3	Waste generated	Sustainability Report p.50
306-4	Waste diverted from disposal	Sustainability Report p.50
306-5	Waste directed to disposal	Sustainability Report p.50
308-1	New suppliers that were screened using environmental criteria	Sustainability Report p.49
416-1	Assessment of the health and safety impacts of product and service categories	Sustainability Report p.58, 59
417-1	Requirements for product and service information and labeling	Sustainability Report p.58, 59
Social standards		
204-1	Proportion of spending on local suppliers	Sustainability Report p.28
205-1	Operations assessed for risks related to corruption	Sustainability Report p.48
205-2	Communication and training about anti-corruption policies and procedures	Sustainability Report p.48, 49
206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	Sustainability Report p.48
403-1	Occupational health and safety management system	Sustainability Report p.18-20
403-2	Hazard identification, risk assessment, and incident investigation	Sustainability Report p.18, 19
403-3	Occupational health services	Sustainability Report p.18-20
403-4	Worker participation, consultation, and communication on occupational health and safety	Sustainability Report p.18-21
403-5	Worker training on occupational health and safety	Sustainability Report p.18, 20
403-6	Promotion of worker health	Sustainability Report p.21
403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	Sustainability Report p.18-20
403-8	Workers covered by an occupational health and safety management system	Sustainability Report p.18
403-9	Work-related injuries	Sustainability Report p.18, 57
404-2	Programs for upgrading employee skills and transition assistance programs	Sustainability Report p.44, 45
405-1	Diversity of governance bodies and employees	Sustainability Report p.44
407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	Sustainability Report p.48, 49
408-1	Operations and suppliers at significant risk for incidents of child labor	Sustainability Report p.48, 49
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	Sustainability Report p.48, 49
413-1	Operations with local community engagement, impact assessments, and development programs	Sustainability Report p.40-43
414-1	New suppliers that were screened using social criteria	Sustainability Report p.49

