



MASTERS OF MALT

Brewing a Low-Carbon Future:
Sustainable Malt Production and Regenerative Farming Practices

30 September 2025 | Comillas University



COMPANY INTRODUCTION

BOORTMALT
AXKEREAL GROUP



1250

Masters of Malt



5

Continents



1

Passion for Malt



27

Malting Plants



3.1 Mt

Total Capacity

Our shareholders

AXEREAL

La Terre, les Hommes, le Futur

***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.

TEMASEK

***Temasek** is a global investment company headquartered in Singapore. Temasek's portfolio value is about €265 billion. It spans a broad spectrum of industries: financial services; telecommunications, media & technology; consumer & real estate; transportation & industrials; life sciences & agribusiness.*



UNIGRAINS

***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.*

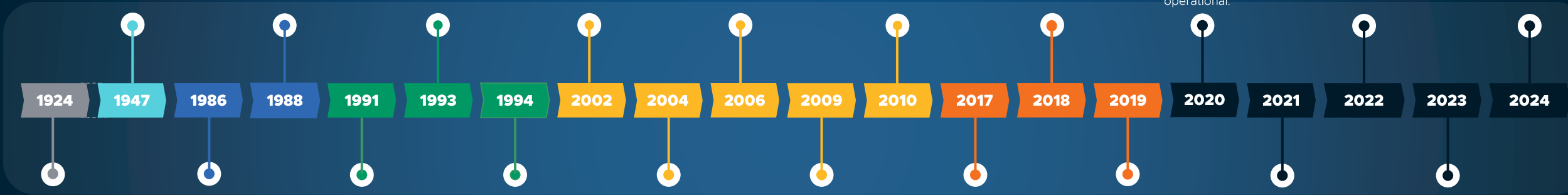
Key milestones



- Construction of a new large silo in **Boortmeerbeek (BE)**, thanks to the support of the Marshall Plan.
- Move and transfer of the production to the **port of Antwerp (BE)**
- Boortmeerbeek merges with neighbouring silo company **Samga**
- Acquisition of a 49% stake in Boortmalt by Epis-Centre. Boortmeerbeek becomes **Boortmalt**.
- Acquisition of the Hungarian Malthouse **Weissheimer** in Dunaujvaros.

AXEREAAL

- Shareholder Epis-Centre merges with Agralys to create **Axereal** and becomes one of the biggest grain co-ops.
- Acquisition of **Greencore** malting activities with 7 plants located in the UK, Ireland and Belgium.
- Construction of **M3 malting tower** in Antwerp (BE).
- Boortmalt starts the construction of Africa's first malt house in Ethiopia.
- Start of the **Cargill Malt Acquisition** project.
- Opening of the **Antwerp Innovation Centre**
- Athy (IR)** extension and rebuild fully operational.
- Deployment of **Optisteeep** Technology
- Launch of **BoortmaltX**
- Antwerp North HeatNetwork**
- Heat loop inauguration
- SBti Target certified
- 100 years anniversary
- Boortmalt Summit



- Founding of **Mouterij Boortmalt** in Boortmeerbeek (BE).
- Building of a **1st malting facility** along the Dyle-Louvain canal. The malt house started with a malt production of **3,700t** per year.
- Acquisition of the **Sobelgra Silos** in Antwerp (BE).
- Founding of the French grain cooperative **Epis-Centre**, future Boortmalt's parent company.
- Acquisition of the **Malteries Franco-Suisses** with facilities in Issoudun (FR) by Epis-Centre.
- Construction of the **M2 malting tower** in Antwerp (BE).
- Complete acquisition of Boortmalt by Epis-Centre.
- Start extension of the **Antwerp (BE) and Hungarian** malting sites.
- Antwerp becomes the **largest malting facility** in Europe. (from 240 to 340kt production capacity)
- Yvan Schaeapman** appointed as CEO of Boortmalt.
- Unigrains** and **Temasek** acquire a minority stake in Boortmalt.
- Building a new malting tower **M4** in Antwerp (BE) making it the largest malting site in Europe
- Starting of a malt development project in **Ethiopia**.
- Completion of the acquisition of Cargill Malt, 16 malthouses in 9 countries.
- LATAM** Innovation Centre inauguration. Boortmalt becomes the **world's leading malt producer** with 3Mt from 27 malting plants.
- Commissioning of **Issoudun's (FR) solar thermal power plant**, one of the largest in Europe.
- Start of the expansion works in **Buckie (UK)**.
- Ethiopian malting plant fully operational.
- New Steep House in Herent (BE)
- Tritordeum – Atlantis Series launched
- Maltchies: First food product for BtoC market



WE ARE ONE

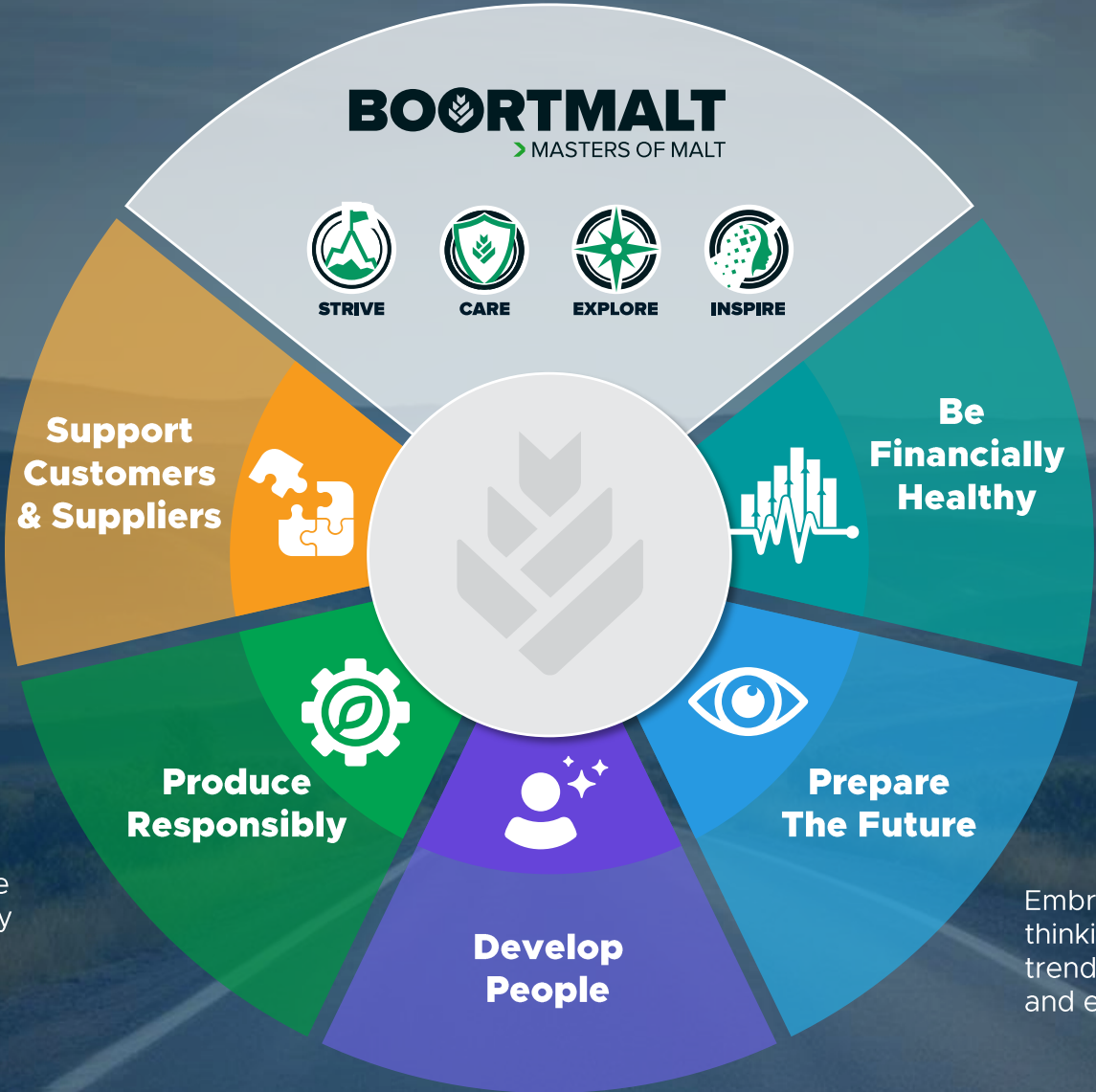


Industrial footprint



-  Headquarters
-  Innovation centre
-  Malting Plant
-  Laboratory
-  Business Offices

Our Strategy



Build strong, collaborative relationships with customers and suppliers by providing exceptional malts, innovative solutions and mutual growth opportunities in a sustainable way

Maintain robust financial practices to secure profitability, manage risks and support sustainable growth for the benefit of stakeholders.

Commit to sustainable and ethical production practices that prioritise environmental stewardship, quality and compliance with global standards. Continue to be an inspiring pioneer in sustainability.

Embrace innovation and forward-thinking initiatives to adapt to market trends, leverage emerging technologies and ensure long-term competitiveness.

Invest in employees' growth and well-being through training, career development and a culture that fosters inclusion, innovation and teamwork. Drive impact through purpose-driven individuals.

BOORTMALT VALUES



Inspire

We adopt a long-term orientation delivering sustainable performance through innovation and digitalisation, becoming praised *Masters of Malt*.

Strive

We commit to challenge ourselves to the highest level for our customers and team members by taking ownership of everything we do, contributing to a global success.



Care

We care for communities, our earth, our colleagues, partners and customers. We believe that diversity makes us stronger. We encourage trust, empathy and treat one another with respect.



Explore

We must think out of the box and embrace pioneer ideas to become a source of motivation. We like challenging the status quo to develop our full potential.



Masters of Malt

Our Customers

Brewers



90%

Carlsberg

ThaiBev

ABInBev

Damm

HR HIJOS DE RIVERA

CCU

CASTEL

SAN MIGUEL CORPORATION

GRUPO AGORA

m

HEINEKEN

Asahi

KIRIN

Constellation Brands

MOLSON COORS beverage company

GRUPO PETRÓPOLIS

Distillers



8%

DIAGEO

LM La martiniquaise

BROWN-FORMAN

LVMH

Cuervo

WILLIAM GRANT & SONS
INDEPENDENT FAMILY DISTILLERS SINCE 1887

BACARDI

Pernod Ricard

Food



2%

NOVARTIS

Cadbury

kraft foods

gsk GlaxoSmithKline

Nestlé

Our Craft malt brands: a family of local malthouses

The craft brewers and distillers we work with are passionate about what they do and the enjoyment they share with their communities



Sustainability targets for 2030

Health & Safety



0 injuries

All our sites
to be injury free

Energy use & Emissions reduction



-50% scope 1&2
emissions

through energy efficiency,
decarbonization of heat use
& renewable energy sources



-42% Absolute S1&S2
GHG emissions

Sustainable farming



75% Farmers
engaged

in a sustainable agriculture
program.
*SAI, SBTi, RegenAg, Local
initiatives*



-30.3% Barley
Emission

Water conservation



-30% Water
consumption

Reduce freshwater
consumption to < 2m³ of
water per MT of Malt

People & Communities

Diversity, inclusion, equality,
supporting communities



Ethics & Compliance

Certifications, traceability, transparency,
Business ethic practices



Innovations

Product

BOORTMALTX
Start-ups program

Food and Beverages Natural Cosmetics & Hair Care

Natural Food Supplements Nutritious Pet Food

Unleashing the potential of malt, together.

CREATIVE SERIES
Infused malts

ATLANTIS SERIES
Tritordeum Malt

ATLANTIS
MALT SERIES

BOORTMALT LIFE
Food

Maltchies

**EAT ONE, EAT ALL
NO REGRETS**

BBQ
Oak smoke and canadian maple syrup.

HENRIKE 2.0
New barley variety

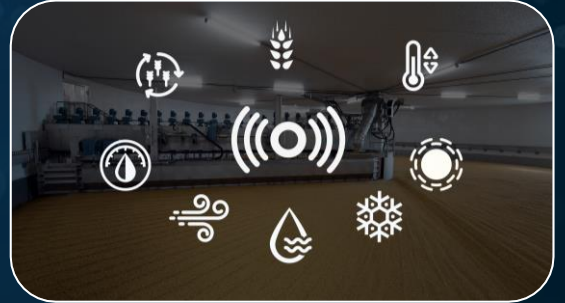
Process



Continuous kiln



OptistEEP



AI production adjustment

Innovation

Snacks | Maltchies now available in Spanish supermarkets



Purpose of malting

To achieve the correct modification in the grain to release fermentable sugars

Steeping

The barley is subjected to single or multiple phases of steeping in water in a specially designed steeping vessel.

Germination

The chitted barley is placed on perforated floors to promote germination of the grain. This is controlled (temperature 15 to 18°C, humidification, ventilation) and the complete bed of grain is gently turned to prevent matting.

Kilning

The green malt is placed on a perforated floor and the grain is dried by blowing controlled volumes of heated air through the grain, following a product specific kilning recipe.



Malt defines the colour and taste of whisky but also the foam and body of beers

A large industrial malt kiln with a central walkway and circular malt beds. The scene is dimly lit with blue and yellow tones. The text "BOORTMALT VILLAVERDE" is overlaid in white.

BOORTMALT VILLAVERDE

Company introduction

Boortmalt Villaverde producing 105,000 ton malt/year

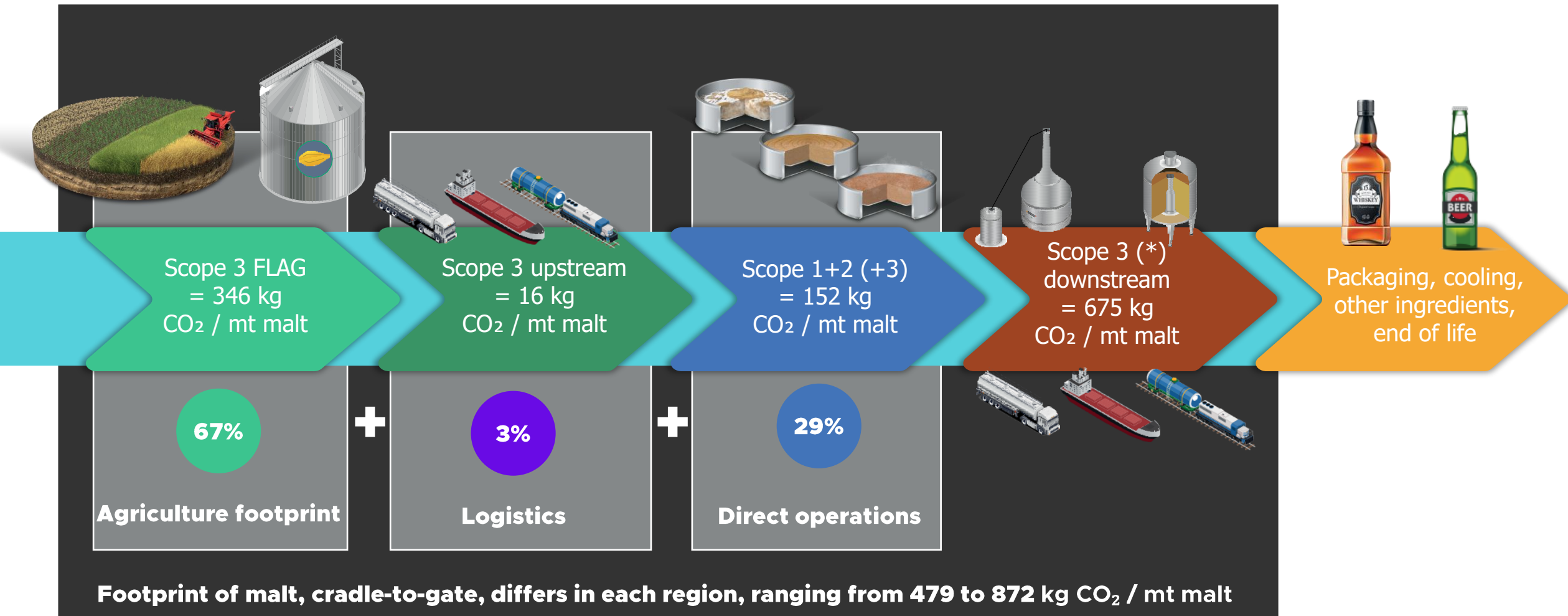


A dark, atmospheric photograph of a distillery floor. The floor is covered with numerous circular mounds of malt, arranged in a pattern that leads the eye towards a central walkway. The lighting is dramatic, with bright spots on the malt mounds and a dark, shadowy background. The overall mood is industrial and mysterious.

OUR DECARBONISATION JOURNEY

Carbon footprint

Scope 1, 2 and 3



Scope 3 Downstream (*): covers outbound logistics as well as customers' brewing and distilling operations.

GHG EMISSIONS SCOPE 1 AND 2

Objective Scope 1 and 2

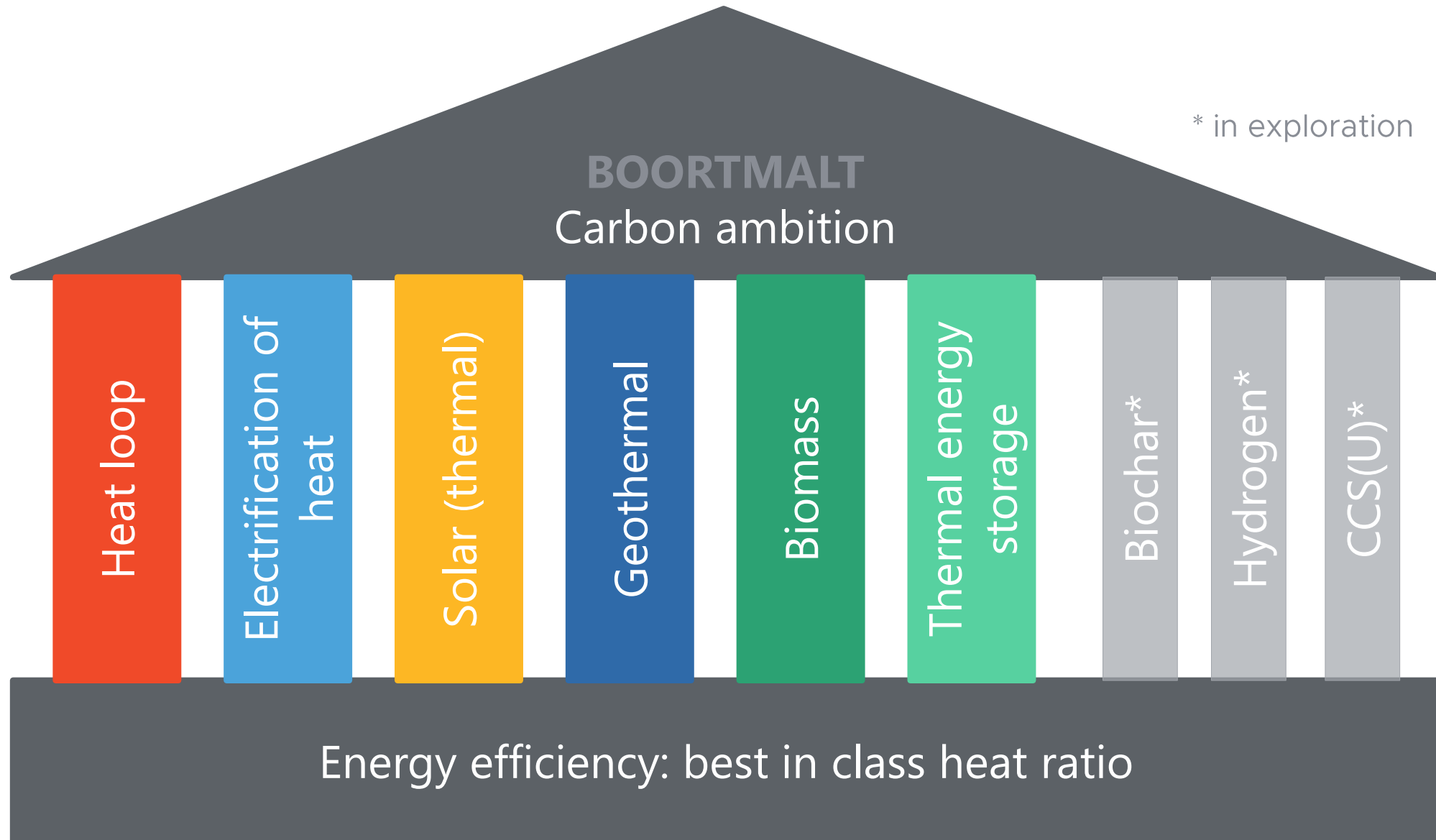
Net-Zero emissions ahead of the Paris Climate Agreement

- ❖ As a leading maltster, **we ought to transform the malting industry** — driving sustainability forward, while creating value for our communities and the planet.
- ❖ We have a **vision to decarbonise** our malt through smarter, cleaner energy technologies: electrification (heat pumps and e-boilers), waste heat loops, biomass, solar thermal, geothermal, green power, etc.
- ❖ In addressing our direct carbon footprint, we are **committed to the Science Based Targets initiative (SBTi)**, aiming to reduce our absolute Scope 1 and 2 greenhouse gas (GHG) emissions with 42% by FY30.



NET
ZERO

Energy transition strategy scope 1





Antwerp North Heat Network

CARBON-FREE HEAT NETWORK

WARMTENETWERK
ANTWERPEN NOORD

Boortmalt can save gas consumption equivalence of **10,000** homes per year

12km heat loop brings waste heat from Indaver incineration plant to Boortmalt maltings

Temperature heat loop **100°C**

With this heat network Boortmalt will save **±30,000** tons of CO₂/year

Antwerp Maltings energy mix



Cogeneration

30%



Heat network

50%*



Natural gas

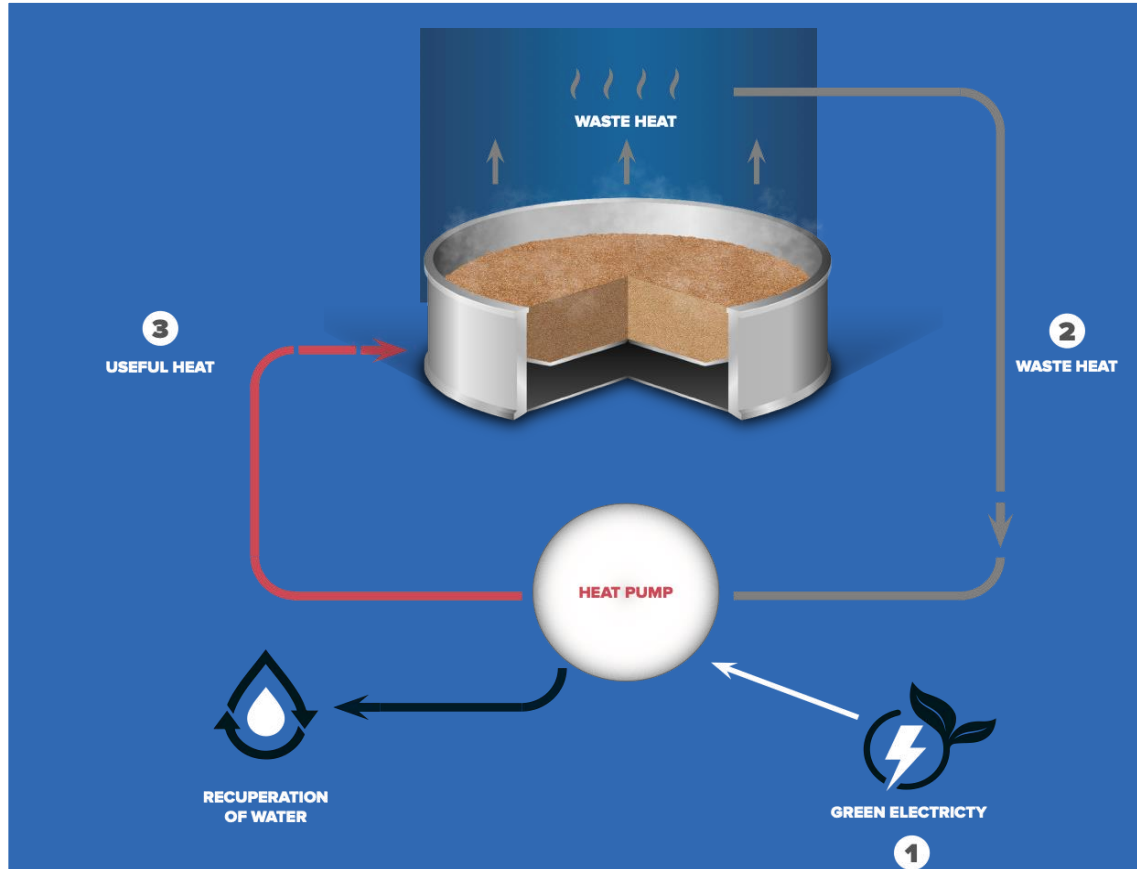
20%



*Possible extension to 75% by 2026

Heat pump Athy (Ireland), Boortmalt patented technology

5,800 ton CO₂ savings per year through electrification of heat, fed by solar field



E-boiler Debre Birhan (Ethiopia)

10,688 ton CO₂ savings per year expected through electrification of heat, fed by hydropower



Heat pump Bury St Edmunds (UK) under construction

9,172 ton CO₂ savings per year expected through electrification of heat



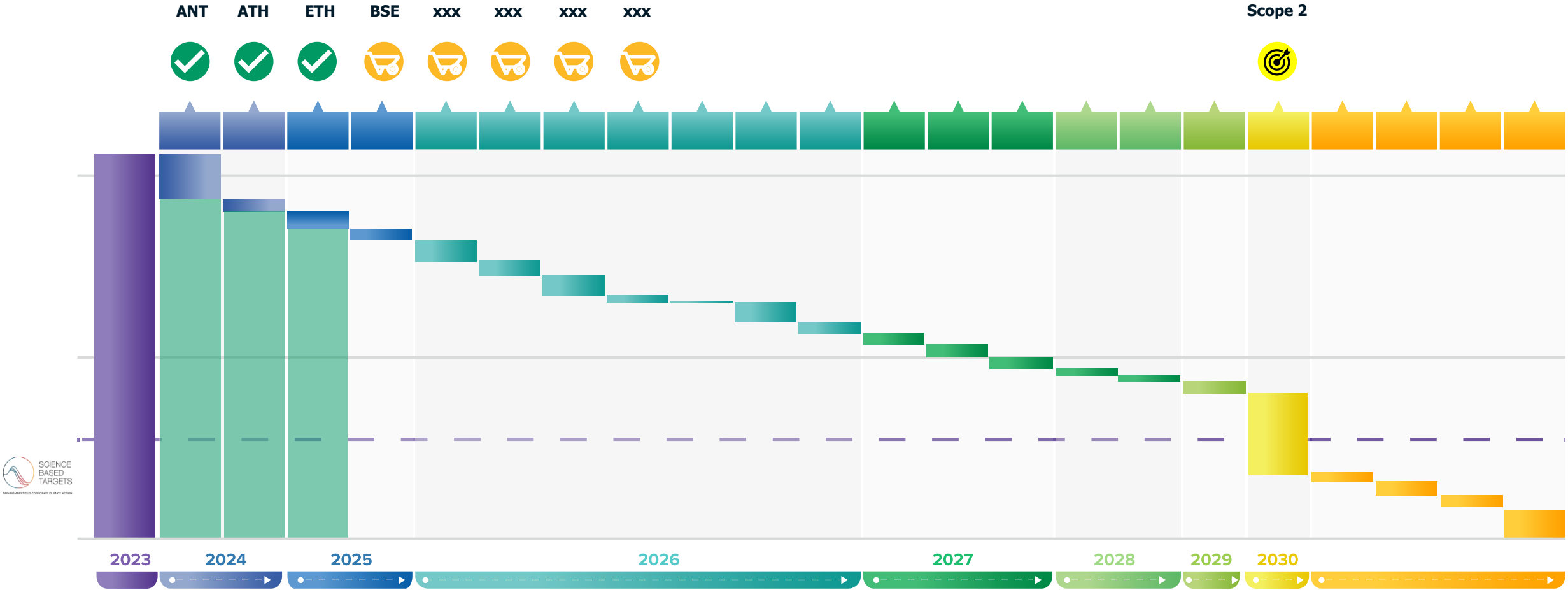
GTHX Knapton (UK) planned

Energy efficiency first when looking for decarbonisation projects
1,100 ton CO₂ savings per year expected



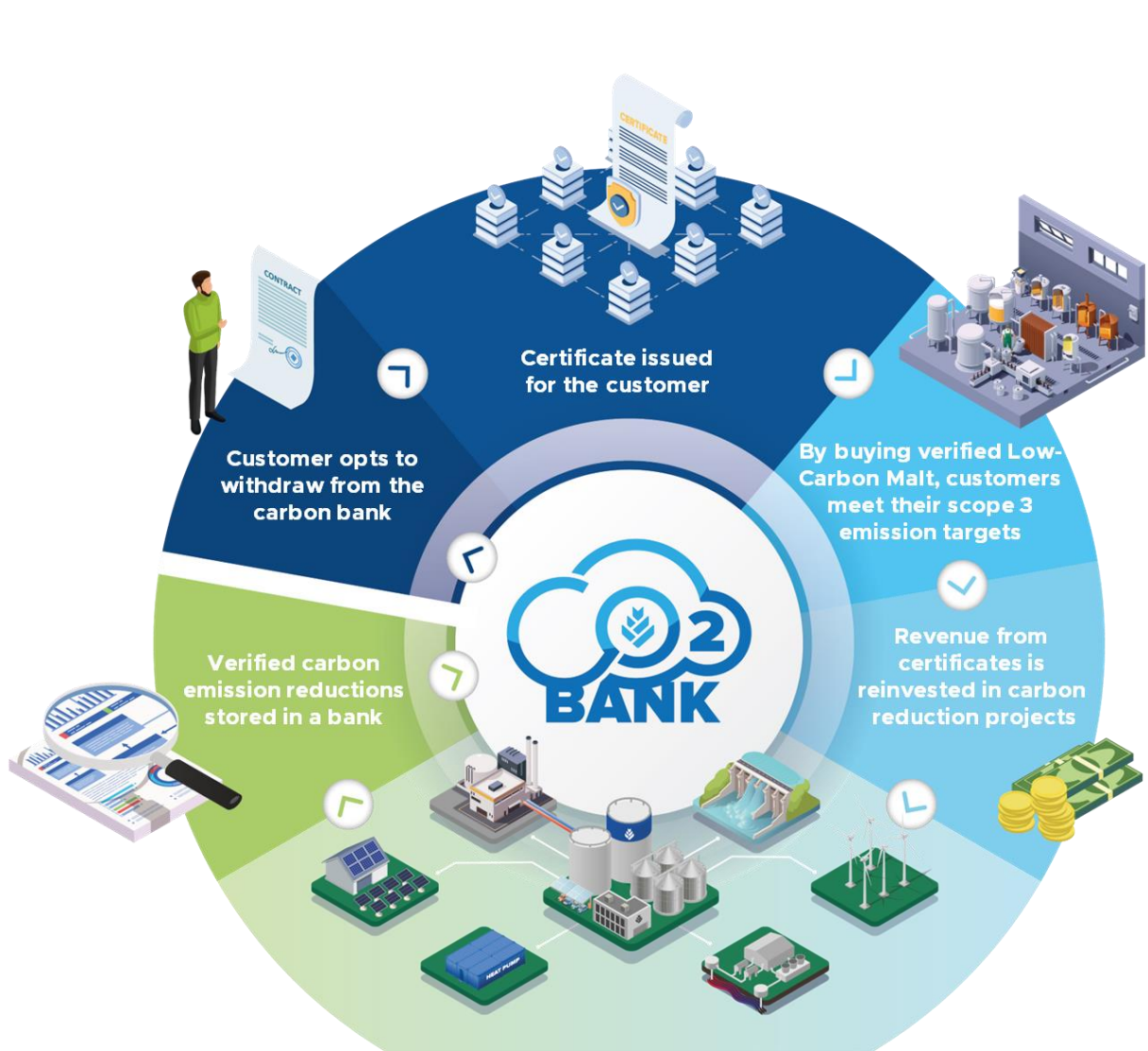
Decarbonising Scope 1 and 2

Energy transition to reach our SBTi commitment to reduce 42%



Carbon Bank

Financing our decarbonisation journey



Carbon Bank concept

Step 1 | Feeding the bank

We are investing in decarbonisation projects



Emission savings are verified by a third party



CO₂e savings are consolidated into a virtual bank



Carbon Bank concept

Step 2 | Carbon savings withdrawal

Customers opt to withdraw carbon savings from the bank



Carbon savings are converted to certificates and allocated to the malt **Product Carbon Footprint**



Customers can reach their Scope 3 non-FLAG GHG emissions targets



Carbon Bank concept

Step 3 | Revenues are re-invested to achieve Net-Zero

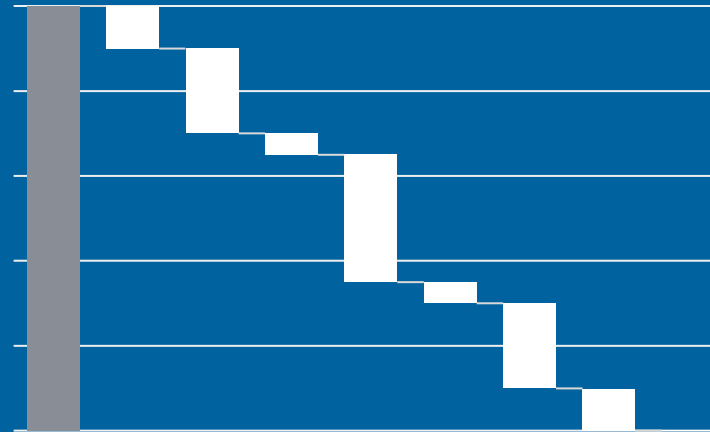
Revenues are re-invested into further decarbonisation projects otherwise not economically feasible



The Carbon Bank makes it possible to reach Net-Zero to the benefit of the industry

~~Carbon Trading~~

Path towards Net-Zero



The carbon savings cannot be traded nor sold outside of the value chain





GHG EMISSIONS SCOPE 3

Objectives Scope 3

Sustainable agriculture targets

- ❖ SBTi commitment: reduce absolute Scope 3 FLAG emissions with 30.3% by FY30 from FY23 baseline
- ❖ Certified SAI silver (or equivalent) by 2030:
95% Europe - 50% rest of the world
- ❖ MRV – 67% of barley tonnage under MRV (Monitoring, Reporting and Verification) system by 2030



Overview Boortmalt Scope 3 initiatives

Supporting Supplier Programs

Support farmers transition to RegenAg via the programmes of our Suppliers:

- CultivUp from Axéréal in France
- Cargill's SustainConnect in Australia

Developing New Programmes

Developing new C reduction programs with partners, for certified Low-Carbon barley:

- Soil Capital in IRL
- BASF in IRL

Create Local RegenAg Supply chain

With craft brewers and community of farmers

- Belgomalt in Belgium
- Roots Revival in UK

Low-Carbon Fertilisers

Tackle emissions from fertilisers:

- Low-carbon fertilisers from Yara in Argentina

Buying certificates

Cover our barley procurement with S3 reduction VEF from existing programmes:

- Supply Shed model in France



For a total of
~100kT of certified
barley in 2025

More to come in
new geographies

Verified low-carbon & regenerative barley



Improved Soil Health

- Carbon Sequestration
- Increased water retention
- Reduced Erosion
- Improved Nutrient Cycling
- Biodiversity enhancement



Investment in UK Agriculture

- Incentivises farmers to move to regenerative agriculture
- Builds resilience in UK commodities markets
- Inset emission reductions VS offset



BRINGING SCOPE 1, 2 AND 3 TOGETHER

Boortmalt Infinity Offer



Regenerative Farming

The barley is sourced from fields where regenerative farming practices are actively implemented.

Zero-emissions Malting

Through savings from our decarbonisation projects, we produce malt with zero emissions in the malting process.

Verified Malt Carbon Footprint

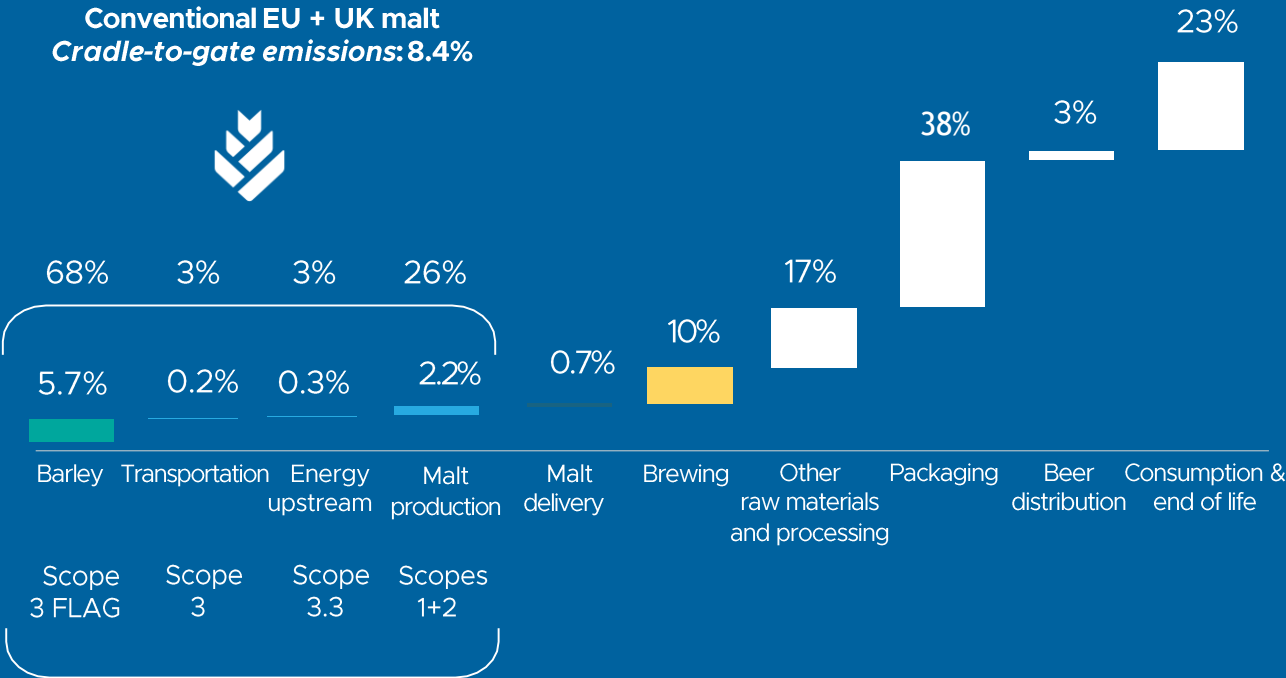
Our product is backed by third-party verified data, ensuring transparency and credibility in our environmental claims.

Decarbonising your malt supply

As impactful as decarbonising your brewhouse



Total emissions related to beer production in %*
(absolute² = 6 075 kg CO₂e per ton of malt)



Combining Regen Ag + Carbon Bank = up to 94%⁽¹⁾ reduction in the *cradle-to-gate* emissions, or 8% of your overall footprint⁽²⁾, which is almost as much as decarbonising a conventional brewhouse.

Note (1): From Farm to maltster's gate (EXW) assuming FLAG emissions are brought to zero thanks to Regenerative Farming practices and reducing Scope 1+2 down to ZERO with the Carbon-Bank mechanism. Some of our Regen Ag supply chains go beyond ZERO with negative carbon footprint including delivery.

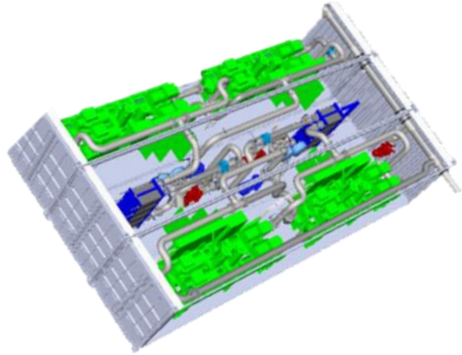
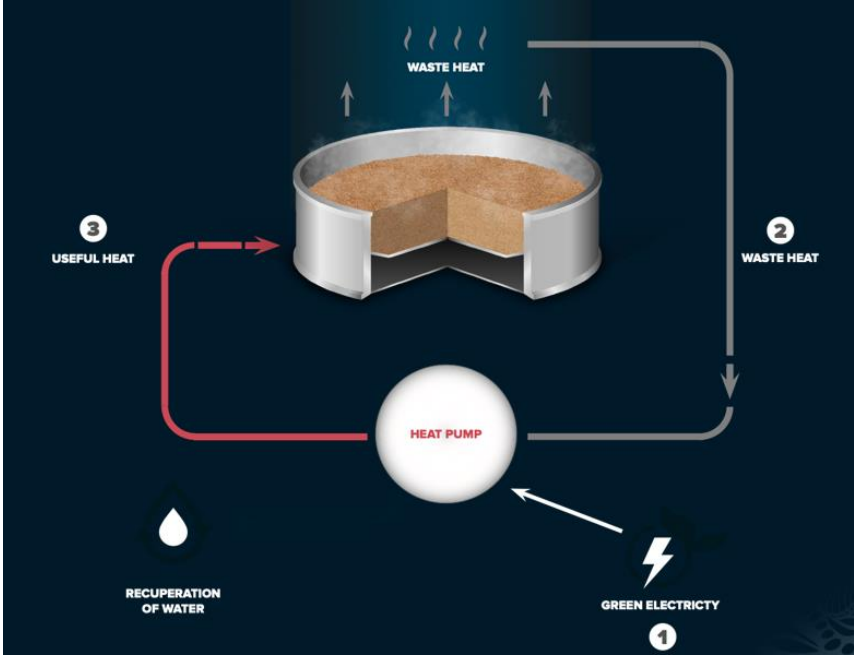
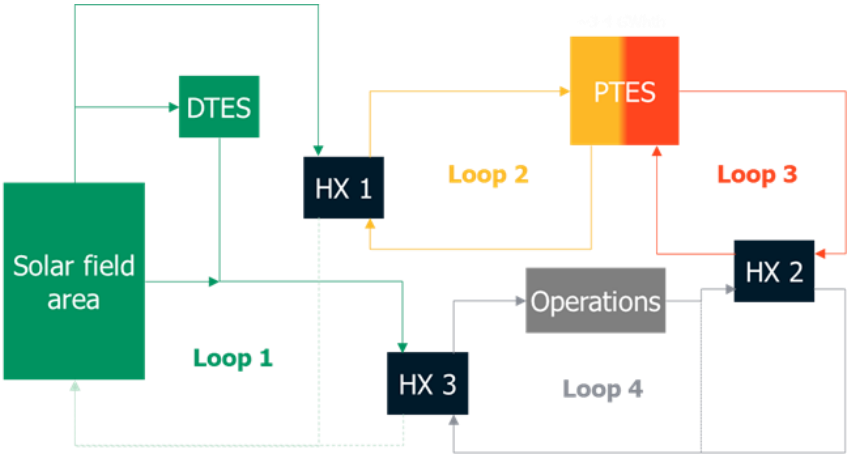
Note (2): Total emissions related to the production of beer in kg CO₂e per ton of malt, including other supply chains involved in the production and distribution of beer, and end-of-life factors.

A large industrial malt kiln with a central walkway and circular malt beds. The scene is dimly lit with blue and yellow tones, highlighting the circular patterns of the malt beds and the central walkway.

DECARBONISING BOORTMALT VILLAVERDE

Decarbonising Scope 1 and 2 and 3

Boortmalt Villaverde green electricity contract + evaluating different Scope 1 projects



THANK YOU