

TOGETHER  
TOWARDS



ZERO &  
BEYOND

ENVIRONMENTAL,  
SOCIAL  
& GOVERNANCE  
REPORT 2022



# INTRODUCTION

## Welcome to the Carlsberg Group's Environmental, Social & Governance (ESG) Report for 2022



Find out how our enhanced ESG programme supports our business, society and the planet.

Learn about the progress we are making by working together with our people and partners across our 11 focus areas, and how we are contributing to economies.

Discover how we embrace governance and transparency to navigate our journey Together Towards ZERO and Beyond.

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# ABOUT THIS REPORT

We are committed to transparent reporting. Each year, we publish three corporate reports: our Annual Report, this ESG Report and a Remuneration Report. Each report is tailored to the specific audience, with cross-references to the other reports where relevant. All three reports are available on [carlsberggroup.com](https://www.carlsberggroup.com).

## SCOPE OF REPORTING

This ESG Report describes our approach to and performance on our most material ESG issues for the financial year 1 January to 31 December 2022.

It covers companies with continued operations, that the Carlsberg Group directly or indirectly owns, in which it controls more than 50% of the voting rights or that it otherwise controls. This scope includes 84 breweries and soft drinks production sites (together referred to as “breweries” in this report) across 29 markets.

In March 2022, we took the decision to seek a full disposal of our business in Russia in response to the Russian invasion of Ukraine. As a result, the Russian business is no longer included in the Group’s revenue and operating profit and is presented separately as net result from Russian operations held for sale. Russia is therefore excluded from all our ESG reporting for 2022. We have restated the 2021 data and baseline data used for our targets to exclude Russia, to enable like-for-like comparison with 2022 and assess progress in the body text, bar charts and illustrations in this report, unless noted otherwise. All detailed performance data

published previously, for the years up to and including 2021, continues to include Russia, and is maintained in the appendices (see page 92).

For more on our reporting process and scope, see page 99.

## REPORTING FRAMEWORKS

This report serves as our statutory statement on corporate social responsibility in accordance with sections 99a, 99b and 99d of the Danish Financial Statements Act. It also forms the basis for our 2022 Communication on Progress to the UN Global Compact, which will be submitted in March 2023 in line with new requirements. We additionally report on our EU Taxonomy eligibility in our *Annual Report*, with an accompanying summary included in this ESG Report (see page 80).

Our ESG actions also contribute to the UN Sustainable Development Goals (SDGs). We signpost this in relevant sections of the report and include indexes summarising our contribution to both the SDGs (see page 85) and the UN Global Compact (see page 90).

See page 80 for more on the reporting frameworks we follow.

## ASSURANCE

Selected data on key performance indicators is subject to limited assurance by PwC (see page 141).

# FIND OUT MORE



## ESG REPORT & SUMMARY

This full *ESG Report* provides comprehensive information on our Together Towards ZERO and Beyond programme, ambitions, targets, governance, performance and partnerships. The *ESG Report Summary* provides an overview of the report highlights.

## ANNUAL REPORT

Our *Annual Report* focuses on our financial performance. It includes sustainability information relevant to investors, including our annual climate disclosures for the Task Force on Climate-related Financial Disclosures (TCFD).



## REMUNERATION REPORT

Our *Remuneration Report* includes full disclosure of the remuneration we provide to members of our Supervisory Board and Executive Management.

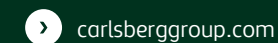
## WEBSITE

[carlsberggroup.com](https://www.carlsberggroup.com) hosts all our relevant reports and policies, as well as an overview of our *Together Towards ZERO and Beyond* focus areas, and showcases examples of actions and achievements along the way.



## SOCIAL MEDIA

We share our latest sustainability stories and updates from across our markets throughout the year.



# MESSAGE FROM OUR CEO



## At Carlsberg, we are brewing for a better today and tomorrow.

Together Towards ZERO, our ESG programme, set out bold ambitions to tackle four key challenges – ZERO Carbon Footprint, ZERO Water Waste, ZERO Irresponsible Drinking and a ZERO Accidents Culture.

Over the last five years, it has delivered significant progress, helping to drive standards within our industry and beyond. On climate, we were among the first three companies in the world to set science-based targets aligned with a 1.5°C scenario. Today, more than 2,000 companies have these in place. Now, we are going further with an enhanced programme that is designed to address all our most

material issues and drive efforts to meet evolving global challenges as we go Together Towards ZERO and Beyond (TTZAB).

Launched this year, TTZAB builds on our progress to date and reaffirms our commitment to help tackle global challenges, uphold the principles of the UN Global Compact and contribute to the UN Sustainable Development Goals. It is an integral part of our SAIL'27 strategy to accelerate growth and create value for our shareholders, employees and society.

TTZAB not only raises our ambition level even further but addresses a wider array of material topics to create a more holistic ESG programme. It sets new targets to support regenerative and sustainable agriculture for a ZERO Farming Footprint, to work towards ZERO Packaging Waste, to replenish water in areas of high water risk, and to increase representation of women in leadership roles as part of our wider commitment to Diversity, Equity and Inclusion. It also reinforces our long-standing commitments to Living By Our Compass, Human Rights, Responsible Sourcing and Community Engagement.

Ahead of the COP27 climate conference, I joined other members of the Alliance of CEO Climate Leaders in calling for collective action from governments and businesses to tackle the climate emergency. We are committed to doing our part, targeting a net ZERO value chain by 2040 to enable consumers to enjoy great beer with the smallest carbon footprint possible.

Our business was faced with global volatility in 2022. We strongly denounced the Russian invasion of Ukraine, which led us to seek a full divestment of our business in Russia. We also faced the effects of the ensuing energy crisis and ongoing pandemic-related challenges in our supply chains and on-trade sales channels. Despite these economic headwinds, we delivered on our strategy, and our commitment to sustainability remains steadfast, as we believe it is the right thing to do for business and for society.

Our five-year SAIL'22 strategy concluded with strong results for our business. Despite the substantial increase in input costs, the negative impact of the steep increases in energy prices, and our decision to increase marketing investments,

operating profit grew organically by 12.2%, with reported operating profit amounting to DKK 11.5bn. Free cash flow was DKK 9.9bn and ROIC improved by 270bp to 15.2%.

Through the accompanying Together Towards ZERO programme, we have exceeded our 2022 targets to reduce carbon and water use at our breweries – by focusing on efficiency, eliminating coal and switching almost all our electricity to renewables.

However, more needs to be done on ZERO Irresponsible Drinking and a ZERO Accidents Culture. While our alcohol-free brews are now available in 90% of our markets and we are rolling out responsible drinking labelling on more of our packs, the pandemic and local implementation challenges have resulted in fewer responsible drinking partnerships than targeted. Although we have significantly reduced our lost-time accident rate and incidents related to our Life Saving Rules, we are deeply saddened by the death of an associate employee in a traffic accident this year and we are determined to keep working towards a ZERO Accidents Culture.

We are building on what we have learned and achieved through Together Towards ZERO to go Beyond. TTZAB sets specific, measurable targets to drive tangible progress in the areas where we can have the biggest impact. Its aspirational ambitions will push us to develop innovative solutions to global challenges and contribute to a strong sense of pride in Carlsberg.

Realising these ambitions will require paradigm shifts within and beyond our industry, so we must work together with others to get there, and partnerships remain central to our approach. We involved colleagues from across the business in the development of these ambitions and our SAIL'27 strategy to bolster the engagement we need to accelerate implementation.

Looking ahead, I am confident that TTZAB will deliver results for society and our business, cementing our licence to operate and our ability to brew better beers, now and in the future, as we strive to fulfil our purpose of brewing for a better today and tomorrow.

**Cees 't Hart**  
CEO, Carlsberg Group

# OUR BUSINESS

The Carlsberg Group is one of the world's largest international brewery groups. We have markets across three regions – Western Europe, Central & Eastern Europe and Asia – and we are also present in markets beyond these regions through export and license agreements. Our beer portfolio spans international and local premium brands, local power brands and brands beyond beer, such as cider.

In 2022, our business delivered strong results despite increasing inflation, the Russian invasion of Ukraine and pandemic-related disruptions.

During the year, we sold over 125 million hectolitres (hl) of quality beers and beverages. Total sales volumes rose organically by 5.7%. Sales of alcohol-free brews grew by 7% in Western Europe. Global alcohol-free brew volumes declined by 6% due to the impacts of the war

in Ukraine; excluding Ukraine, global volumes grew by 1%.

Our nearly 31,000 employees support our business across our operations in Western Europe, Central & Eastern Europe and Asia. Carlsberg products are sold globally, reaching consumers through domestic sales, exports and licensing agreements.

The Carlsberg Foundation is our majority shareholder and uses the

dividends it receives for wider societal benefit (see page 78). A total of DKK 1.03bn was granted to scientific research, the arts and civil society in 2022 by the Carlsberg Foundation, the New Carlsberg Foundation and the Tuborg Foundation (see page 73).

The Carlsberg Group also makes a wider positive contribution to economies and communities around the world through job creation and the taxes we pay (see page 74).

See our Annual Report for more information on our business and financials at [www.carlsberggroup.com/reports-downloads/carlsberg-group-2022-annual-report/](http://www.carlsberggroup.com/reports-downloads/carlsberg-group-2022-annual-report/).

## BUSINESS MODEL



**Sourcing**  
high-quality grains and other raw materials



**Brewing & bottling**  
our beers and beverages



**Distributing**  
our products via ships, trains and trucks



**Selling**  
to bars, restaurants and stores



**Marketing**  
to consumers to enjoy responsibly

**TOGETHER TOWARDS**   
**ZERO & BEYOND**



**VALUE TO SHAREHOLDERS**

**DKK 70.3bn**  
revenue generated

**DKK 11.5bn**  
operating profit

**DKK 3.4bn**  
dividends to shareholders

**DKK 4.4bn**  
share buy-backs



**VALUE TO SOCIETY**

**≈ 31,000**  
employees

**≈ 938,000**  
additional jobs created in our supply chain, hospitality and retail

**DKK 39bn**  
total tax contribution

**DKK 97bn**  
total economic value generated

TOGETHER  
TOWARDS



ZERO &  
BEYOND

# TOGETHER TOWARDS ZERO AND BEYOND

**Our purpose is brewing for a better today and tomorrow.**

Together Towards ZERO and Beyond (TTZAB), our enhanced ESG programme, supports this purpose and is integral to our SAIL'27 corporate strategy.

Launched this year, the programme raises our ambitions with concrete targets and commitments to help tackle global social and environmental challenges. It has 11 focus areas (see right) informed by a materiality assessment of the ESG issues that can have the biggest impact on our business and society (see page 83).

We are taking action across our business and value chain to deliver on our targets and commitments, manage our most material issues and enhance our positive contribution to society.

Partnering with our suppliers, customers, consumers and the communities where we operate is essential to drive progress as we go Together Towards ZERO and Beyond.

## TOGETHER TOWARDS ZERO & BEYOND




**ZERO**  
Carbon  
Footprint



**ZERO**  
Farming  
Footprint



**ZERO**  
Packaging  
Waste



**ZERO**  
Water  
Waste



**ZERO**  
Irresponsible  
Drinking



**ZERO**  
Accidents  
Culture

Responsible  
Sourcing

Diversity, Equity  
& Inclusion

Human  
Rights

Living By  
Our Compass

Community  
Engagement

**"I'm confident that TTZAB will deliver results for society and our business, cementing our licence to operate and our ability to brew better beers, now and in the future, as we strive to fulfil our purpose of brewing for a better today and tomorrow."**

Cees 't Hart  
CEO, Carlsberg Group

# RAISING OUR AMBITION TO GO TOGETHER TOWARDS ZERO AND BEYOND

Our Together Towards ZERO programme, in place from 2017 to 2022, has delivered significant progress in its four focus areas: ZERO Carbon Footprint, ZERO Water Waste, ZERO Irresponsible Drinking and ZERO Accidents Culture. We have met the majority of our 2022 targets, and others have been extended or updated to deliver more meaningful impact in the coming years.

Now we are going Beyond with an enhanced and expanded programme of targets and ambitions designed to deliver transformative change and positive impact for our business, society and the planet.

Together Towards ZERO and Beyond (TTZAB) increases our ambition levels, sharpens our targets for 2030, adds longer-term goals for 2040 and widens our focus to address more of our most material ESG topics (see page 83).

To help us implement TTZAB and deliver on our targets, we have

established an ESG Steering Committee of leaders and experts from across the business, and expanded the Carlsberg Sustainability Advisory Board (CSAB) to include two members of our Supervisory Board alongside independent experts. Additionally, remuneration is linked to performance on TTZAB targets for various roles throughout our business, including for senior managers and the Executive Board. See page 77 for more on governance.

## SUPPORTING OUR BUSINESS

TTZAB is an integral component of our new corporate strategy, SAIL'27. It is a key aspect of the winning culture we need to fulfil our purpose, and supports our overall business performance (see next page).

With its focus on our most material ESG issues, the programme will help us mitigate risks and build resilience, as well as create business growth opportunities as we innovate to meet growing consumer demand for

healthier choices such as no- and low-alcohol brews.

Our ESG programme also boosts our reputation and standing with stakeholders. TTZAB demonstrates to consumers, customers and investors that we are deeply committed to acting responsibly and proactively on ESG issues while delivering value for our shareholders and wider society. Championing sustainability is also popular with our own people, and operating ethically and responsibly is critical to maintaining our licence to operate.

## CONTRIBUTING TO SOCIETY

TTZAB represents our response to global challenges. We will continue to work towards a ZERO Carbon Footprint, ZERO Water Waste, ZERO Irresponsible Drinking and a ZERO Accidents Culture. In addition, we will pursue new targets and initiatives to achieve a ZERO Farming Footprint and ZERO Packaging Waste.

Climate change and water scarcity are two of the biggest environmental

challenges the world faces, harmful drinking habits are a global health concern, and safety at work is a fundamental corporate responsibility and a human right. We continue to embrace our responsibility as a global company on all these fronts.

Our ambitious new targets aim to deliver a net ZERO value chain, replenish 100% of water consumed at our breweries in high-risk areas, drive the success of low- and no-alcohol brews, and eliminate accidents across our operations.

Targets in our new focus areas of farming and packaging will harness our scale and influence to work together with partners to accelerate adoption of regenerative agricultural practices and circular packaging solutions in the brewing industry and beyond. Our efforts in these areas will address biodiversity and resource depletion, as well as supporting efforts to shrink our value chain carbon emissions.

The five additional focus areas in the TTZAB programme give more strategic focus to our ongoing efforts to promote Diversity, Equity and Inclusion (DE&I), uphold ethical business practices by Living By Our Compass, source responsibly, respect human rights and engage communities. To drive our progress on DE&I, we have set shorter-term targets to increase representation of women in senior leadership roles at Carlsberg to 30% by 2024, to 35% by 2027 and to a minimum of 40% over time.

Partnering with suppliers and others will remain essential to our progress and expand our impact. We have strategic partnerships with WWF, among others, and we work with other partners through our memberships of business coalitions. These include the RE100, the We Mean Business Coalition, the Race To Zero, the Alliance of CEO Climate Leaders, the World Federation of Advertisers' Planet Pledge, the International Alliance for Responsible Drinking, the Sustainable Agriculture



Initiative Platform, the Paper Bottle Community and AIM-Progress.

**TARGETING AND TRACKING PROGRESS**

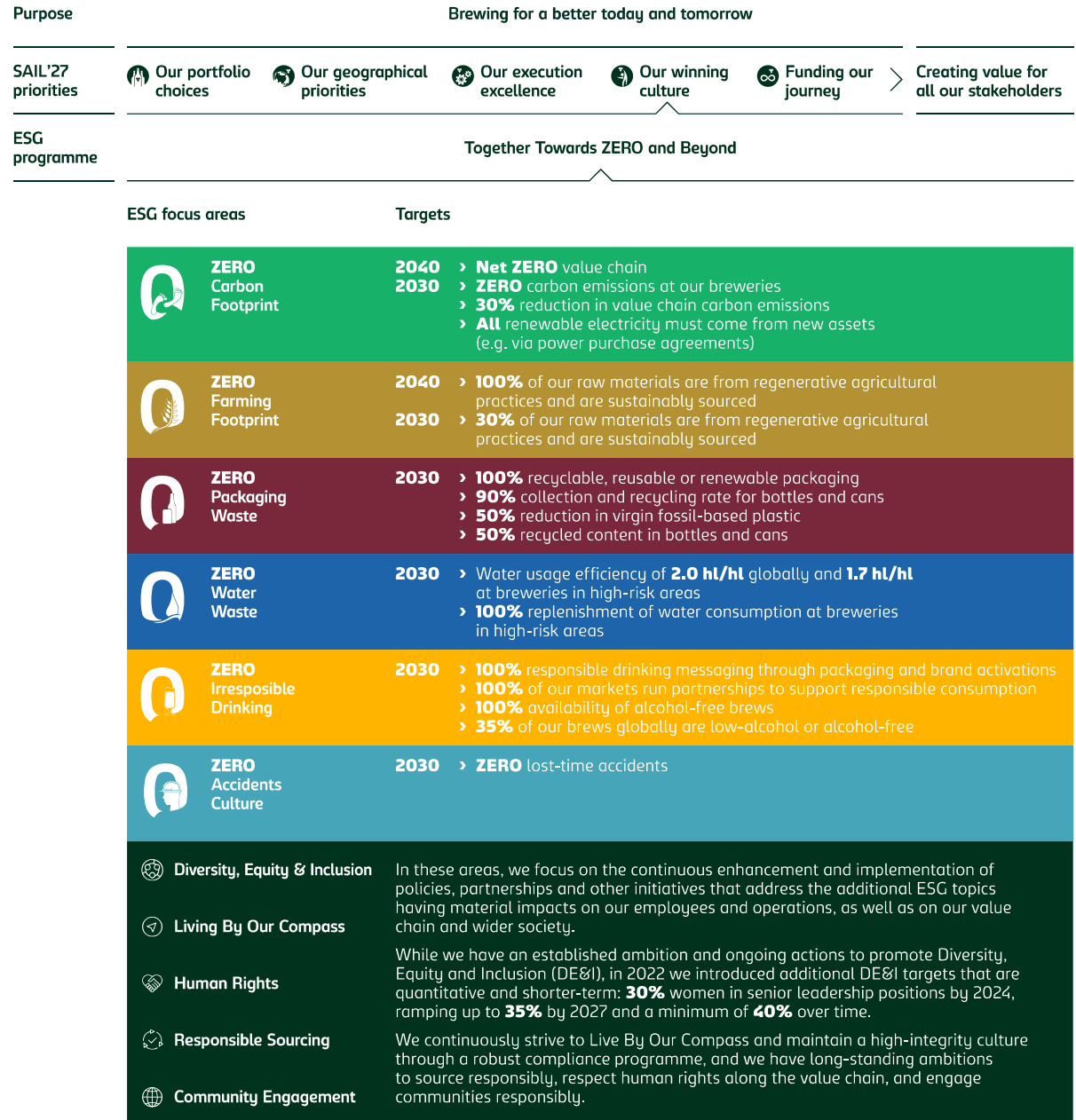
We have set bold targets for 2030 for all six ZEROs – and go further with additional 2040 targets on carbon and farming (see right). We have set clear ambitions in the other five TTTAB focus areas, as well as specific quantitative targets to increase representation of women in leadership roles.

This report provides a transparent account of progress across our ESG focus areas, including how we performed on the Together Towards ZERO targets we set for 2022 and what we are aiming for next as we go Together Towards ZERO and Beyond.

We remain committed to robust methodologies for establishing baselines and tracking performance as we pursue our global ESG programme. Our climate targets are approved by the Science Based Targets initiative and aligned with the 1.5°C target in the Paris Agreement on Climate Change.

Selected data in this report relating to climate, water, energy, health and safety, and economic contribution is subject to independent audit (see page 141).

Across all our TTTAB focus areas, we will strive to continue improving our performance while increasing our disclosure and transparency for all our stakeholders.



# ZERO Carbon Footprint

The need for action to tackle the climate crisis has never been greater and we are stepping up our ZERO Carbon Footprint ambition.

The call from the UN Secretary General to turn commitment into concrete action is underlined by the latest report from the Intergovernmental Panel on Climate Change and evidenced by widespread drought, flooding and other extreme weather events across the planet in 2022.

In the lead-up to the COP27 climate conference, our CEO joined other members of the Alliance of CEO Climate Leaders in calling on governments and businesses to set bold ambitions and follow through on their climate commitments. Carlsberg was also one of 12 leading Danish companies to meet with the UN and urge the Danish government to accelerate the green transition.

Carlsberg was the first brewer – and one of the first three companies in the world – to have emissions targets approved by the Science Based Targets initiative (SBTi) in line with limiting average global warming to 1.5°C. We have already cut emissions from our breweries by 57% since 2015, and we will continue to pioneer low-carbon brewing techniques and technologies to achieve ZERO brewery emissions by 2030.

We are going further by targeting a net ZERO value chain by 2040. Innovation, collaboration and advocacy will underpin our progress – including encouraging key suppliers to follow our lead by committing to science-based targets. We are working closely with partners to explore ways to reduce emissions from producing our ingredients and packaging, and from transporting and chilling our beer.



3.9.1



12.2.1, 12.2.2, 12.6.1 & 12.a.1



17.17.1



7.2.1, 7.3.1 & 7.b.1



13.1.1

See SDG index, page 85.

**-57%**

carbon emissions at our breweries per hl of beer produced since 2015 – exceeding our 2022 target of 50%



**Towards 15%**

reduction in value chain emissions per hl of beer produced, progress to be confirmed in next year's report once full 2022 data is available



**ZERO coal**

achieved at our breweries with the conversion of the final coal boiler in India to sustainably sourced biomass in 2022



**92%**

renewable electricity at our breweries globally, with lack of availability in 4 countries leaving us just short of our 100% target for 2022



**New off-site agreement**

in new renewable assets through a power purchase agreement in Denmark



**Solar thermal installation**

as a new and high-potential source of renewable heat at our brewery in Greece



**A**

rating from CDP for transparency and action on climate, and named in the Financial Times-Statista list of Europe's Climate Leaders



**98%**

of all new fridges and beer dispense equipment delivering low-climate-impact cooling



**By 2040:**

› **Net ZERO** value chain

**By 2030:**

› **ZERO** carbon emissions at our breweries

› **30%** reduction in value chain carbon emissions

› **All** renewable electricity must come from new assets (e.g. via power purchase agreements)



# TOGETHER TOWARDS ZERO AND BEYOND IN ACTION: ZERO CARBON FOOTPRINT

## BREWING WITH THE HEAT OF THE GREEK SUN

It takes almost three times as much thermal power as electricity to produce our beer. But solutions for renewable heat are not yet widely available.

We are exploring new ways to generate heat with renewable energy instead of fossil fuels as part of our ZERO Carbon Footprint commitment. In Greece, we are testing an innovative solar thermal technology that harnesses heat from the sun.

In preparation for a one-year pilot with technology partner Absolicon, we have installed equipment that uses solar energy to generate steam for use at our Olympic Brewery site in Sindos, Salonika.

Solar collectors, programmed to follow the sun, use a series of mirrors to focus the energy from the sun's rays onto highly efficient solar collector tubes.

Pressurised hot water circulates through the tubes to generate steam reaching a temperature of up to 150°C. During the summer months, the solar collectors could supply up to 70% of the energy required for the beer pasteurisation process – 5% of the brewery's total daily heat demand.

By generating heat from solar collectors instead of natural gas, we expect to save around 70 tonnes of CO<sub>2</sub> emissions during the one-year pilot. We have successfully tested steam production, and will formally begin the pilot in the spring of 2023 once the sun is strong enough to allow full testing.

The solar collector field occupies 1,900 m<sup>2</sup> – roughly the size of seven tennis courts – and there is potential to extend it by up to six times that size to generate even more heat from the sun. We will use this pilot in Greece to demonstrate the viability of the technology for other breweries across Carlsberg and beyond.



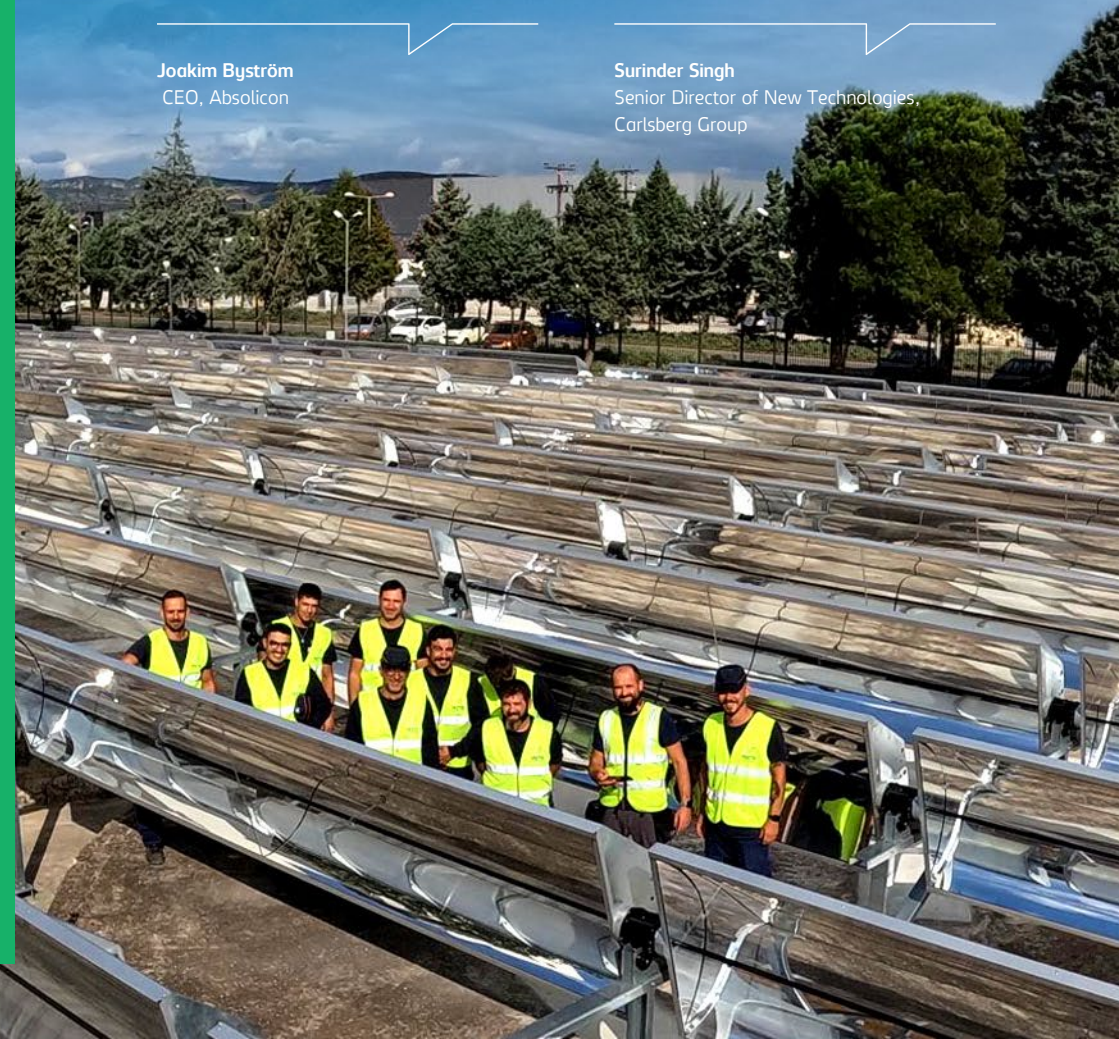
*Watch a timelapse video showing the construction of the solar collector field.*

"Breweries are making plans to decarbonise process heat, and now several reports show that in sunny regions solar thermal collectors are the best way to generate renewable heat and steam. In collaboration with Carlsberg, we show that brewing can be decarbonised using solar heat that provides a scalable, easy-to-integrate and secure energy source."

Joakim Byström  
CEO, Absolicon

"We're excited by the potential of this technology to support the decarbonisation of our breweries globally by 2030, by harnessing the ultimate source of renewable heat energy – the sun. Collaborating across our business and with partners like Absolicon is vital to identifying and scaling the solutions to create renewable heat energy, and we're pleased to be going towards ZERO and Beyond, together."

Surinder Singh  
Senior Director of New Technologies,  
Carlsberg Group



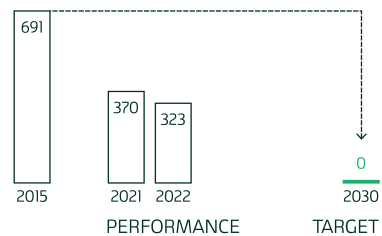
## ELIMINATING BREWERY EMISSIONS

Our efforts to decarbonise brewing focus on improving production efficiency and switching to renewable power and heat.

We have met two of our three 2022 targets on our journey towards a ZERO Carbon Footprint at our breweries. We exceeded our target to reduce CO<sub>2</sub> emissions by 50% per hl of beer produced – achieving a 57% reduction since 2015 on our way to ZERO by 2030. We have also eliminated coal from our breweries, converting the last coal boiler to biomass in 2022.

We now source 100% renewable electricity for our breweries in

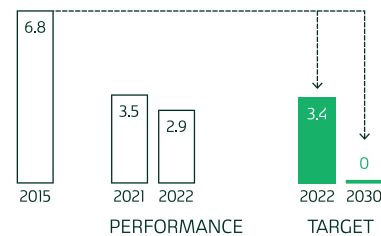
**BREWERY AND MALTING SITE EMISSIONS: ABSOLUTE SCOPE 1 & 2**  
(thousand tonnes CO<sub>2</sub>, excl. logistics)\*•



Western Europe and Asia, but we have not met our 100% target globally – achieving 92% in 2022, including use of renewable energy certificates. This is due to lack of availability in four Eastern European markets, where we are continuing to explore alternative solutions. We are also going further by sourcing more of our renewable electricity from new assets that add additional renewable capacity to the global energy mix, targeting 100% by 2030.

Our actions are guided by our global *Environmental Policy*, which has been developed in line with best practice. This commits us to strong environmental standards on energy, emissions, water, waste and packaging. Our environmental management systems support continuous improvement, and these are certified to the ISO

**BREWERY EMISSIONS**  
(kg CO<sub>2</sub>/hl) \*\*•



14001:2015 standard at 71 of our 84 sites. Energy management systems at 12 of our sites are certified to ISO 50001. Emissions have fallen to 2.9 kg CO<sub>2</sub>/hl from our restated baseline of 6.8 kg CO<sub>2</sub>/hl in 2015. Over the same period, we have reduced our total (absolute) emissions significantly, saving 368,000 tonnes of CO<sub>2</sub>.

The energy crisis fuelled by the war in Ukraine has led to shortages of natural gas in Europe. To help ensure there is enough gas available to heat people’s homes through the winter, some of our brewing sites switched from natural gas to oil to generate heat towards the end of 2022. This has resulted in an increase in our carbon emissions from heat generation in 2022 – countering some of the reductions we have made through efficiencies and renewable energy. Despite these short-term headwinds, we were still able to deliver on our 2022 target, and our ambition to eliminate carbon emissions from our breweries by 2030 remains unchanged.

Volatility in the energy markets means that now, more than ever, investing in renewable energy and efficiency measures will support efforts to drive down both energy costs and carbon emissions throughout the value chain.

## WHAT WE MEAN BY ZERO CARBON FOOTPRINT

### BREWERY EMISSIONS

By 2030, we aim to eliminate greenhouse gas emissions from brewing to achieve ZERO (absolute) CO<sub>2</sub>-equivalent (CO<sub>2e</sub>) emissions from all our breweries globally. Our brewery emissions include Scope 1 (direct) and Scope 2 (indirect, such as from purchased electricity) CO<sub>2e</sub> emissions. They exclude in-house logistics and distribution operations, which are included in our value chain target.

### VALUE CHAIN EMISSIONS

By 2040, we aim to achieve net ZERO carbon emissions in our value chain. Our net ZERO target pathway will follow the guidance set out by the Science Based Targets initiative (SBTi), with the focus on reduction of emissions rather than compensation through carbon offsets. As an interim target, we aim to reduce our value chain emissions per hectolitre (hundred litres or hl) of beer and beverages produced by 30% by 2030, from a 2015 baseline.

Both the 2030 and 2040 value chain targets include Scope 1, 2 and 3 CO<sub>2e</sub> emissions from: growing and processing raw materials; brewing, packaging, transporting, distributing and chilling our products; and handling used packaging. We will measure progress through an analysis of our value chain emissions – previously referred to as beer-in-hand emissions – that will be carried out annually from 2023. For more on the scope of our reporting and emissions tracking, see pages 99 and 138.

### RENEWABLE ELECTRICITY

We already source close to 100% renewable electricity across our breweries and are now going further by pushing for all our renewable electricity to come from new assets by 2030. We define new assets as sources that contribute additionality by supporting investment in new renewable energy capacity. We will achieve this by installing on-site renewables at our breweries where feasible and investing in power purchase agreements to source energy from new off-site renewable assets.

\* Data for 2015 and 2021 restated to exclude Russia.

• 2022 data within PwC’s assurance scope. See previous ESG and sustainability reports for assurance of data published in prior years.

## TRANSFORMING BREWING EFFICIENCY

In 2022, we continued to improve the energy efficiency of our breweries through new technologies and processes.

We completed several projects in Asia, including building sustainability optimisations into the design of a new brewery in China (see right) and upgrading the efficiency of electricity generators by 11% at our brewery in Cambodia, which will have a direct impact on the site's carbon emissions. In Poland, a new energy loop installation recovers heat from spent grains and redirects this thermal energy back into the brewery.

## SWITCHING TO RENEWABLE ENERGY

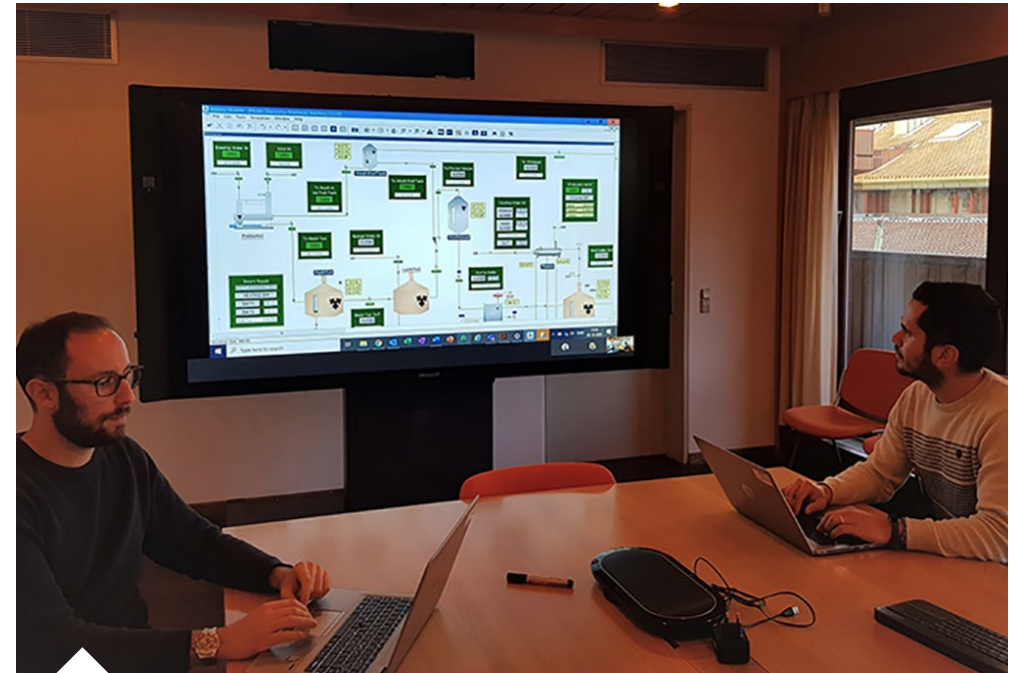
We sourced 92% of our electricity from renewables worldwide in 2022, up from 77% in 2021. Of this, 684 GWh is sourced from the grid through renewable electricity certificates that meet strict *RE100 criteria*. All our breweries in Western Europe and Asia use 100% renewable electricity, but four Eastern European markets do not yet have RE100-aligned renewable power available through their national grids.

Now we are increasing our ambition by committing to sourcing electricity only from new renewable assets that add to global capacity rather than

using existing renewables. Through this commitment, we will help to build up availability of renewable energy for others as well as for our own business. We will achieve this through power purchase agreements (PPAs) for renewable energy installations constructed either at our own sites or elsewhere.

In 2022, we signed a significant off-site PPA in Denmark (see page 14). On site, our newest rooftop solar plant at the Saku Brewery in Estonia can generate 1.1 GWh a year – enough to cover a third of the brewery's peak electricity requirements. The Saku installation takes the number of breweries with on-site solar installations to ten.

We will continue to explore opportunities to expand on-site renewables where feasible to provide both power and heat for our breweries. This year, we began piloting the use of solar thermal technology in Greece (see page 11) and made preparations to install a new electric boiler at our Fredericia brewery in Denmark in early 2023 – both providing alternatives to heating with natural gas. In 2022, six of our sites ran on 100% renewable energy for both power and heat, and 18 of our sites used biogas extracted from on-site wastewater treatment plants as thermal energy (see page 40).



## CASE STUDY

# OPTIMISING EFFICIENCY AT OUR NEW BREWERY IN CHINA

The design of our new brewery in China draws on the work of our Young Scientists Community – a team of post-doctoral researchers at the Carlsberg Research Laboratory – to optimise sustainability.

The scientists used a “digital twin”, a virtual copy of the brewery, to simulate the impact of different brewhouse designs proposed by bidders. This modelling enabled them to identify the most efficient design, one which would need around 20% less energy for heating and use 10% less water than the alternatives. The brewery is currently under construction.

Our last remaining coal boiler – at our Aurangabad brewery in India – has been replaced with a biomass boiler.

This will avoid around 6,000 tonnes of CO<sub>2</sub> per year.

## HOW GREEN IS GREEN ELECTRICITY?

KEY CHALLENGE

The switch to renewable power is central to our ZERO Carbon Footprint ambition and has already contributed to a significant reduction in our brewery emissions.

To date, we have sourced most of our renewable power by purchasing renewable energy certificates. These verify that for every MWh of power we use, the equivalent MWh of electricity is fed into the grid from certified renewable sources, in line with recognised standards set by RE100.

As part of our new Together Towards ZERO and Beyond programme, we want to go further. We want to increase the overall amount of renewable electricity available by sourcing more of our renewable electricity through power purchase agreements (PPAs).

PPAs are long-term contracts that enable developers to invest in new renewable energy assets by guaranteeing a buyer for the energy produced. On-site PPAs are one option, but even if solar panels were to be installed on all available roof space, they would not generate enough electricity to power a brewery completely. Off-site PPAs enable us to make up the difference by supporting investment in new renewable assets elsewhere.

We signed a significant off-site PPA in 2022, and we are exploring other opportunities. However, the current volatile energy market and regulatory uncertainty make establishing long-term contracts more challenging.



### CASE STUDY

## SECURING OUR FIRST OFF-SITE PPA

We have signed a ten-year contract to power our Fredericia brewery in Denmark with electricity from a new solar farm, expected to be operational from 2024.

The agreement with Better Energy – our first off-site PPA – will support development of a new 70-hectare solar park covering the equivalent of 105 football pitches. Once constructed, it will produce enough new green energy to meet the average electricity consumption of 46,000 Danes. We will purchase a substantial share – 29 GWh – from the solar farm each year over a ten-year period.

Image © Better Energy

**"Carlsberg has extensive production in Denmark, and it's a great step to ensure that it's powered by locally produced, new green power. It's both imperative and powerful when big ambitions for green transformation are followed up by concrete actions. Carlsberg has made an active choice to buy new green power, and in doing so has directly accelerated the green transition in Denmark and Europe."**

Rasmus Lildholdt Kjær  
CEO, Better Energy

## CUTTING OUR VALUE CHAIN EMISSIONS

Achieving our target of a net ZERO value chain by 2040 means taking concrete actions to drive down carbon in every step of the value chain from barley in the field to beer in the hand.

Two-thirds of our value chain emissions come from two of these steps: agriculture and processing of raw materials; and production and disposal of packaging. We have enhanced focus on these two action areas through new targets towards a ZERO Farming Footprint (see page 22) and ZERO Packaging Waste (see page 29), which aim to promote biodiversity and support circularity as well as tackling climate impact.

### OUR VALUE CHAIN FOOTPRINT

Since establishing our targets to reduce value chain emissions, we have conducted an in-depth analysis of our footprint every three years to assess progress. Our next assessment, based on 2022 data, will be finalised in 2023 and reported in our next ESG Report. The results will enable us to assess and report progress against our target to reduce value chain emissions by 15% by 2022 (from a 2015 baseline). The last analysis showed a 7% reduction from 2015 to 2019\*, putting us on track to meet our 2022 target.

From 2023 onwards, we will analyse our value chain emissions every year so we can act faster to identify hotspots and target action to cut emissions. We conduct our value chain carbon footprint analysis in

accordance with international standards: the Greenhouse Gas Protocol for Scope 1, 2 and 3 emissions; the Beverage Industry Greenhouse Gas Emissions Sector Guidance; and the European Commission's Product Environmental Footprint guidelines, including the category rules for beer.

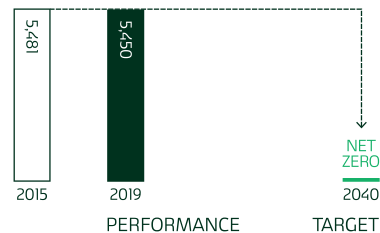
Since our last analysis, based on 2019 data, we have focused on refining our methodology and improving inputs by collecting more primary data from our suppliers rather than relying on industry or market averages. In 2022, we increased our share of primary data from suppliers increased by including

additional packaging categories, from 60% in our previous assessment. We also worked to improve the accuracy of our agriculture footprint calculation through a Brewers of Europe project to develop Life Cycle Inventories for additional markets for key raw materials such as barley, wheat and rice.

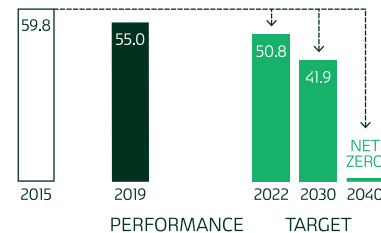
We are committed to transparency and aim to ensure that any claims we make about sustainability – in our reporting or marketing – are substantiated by robust data. Our new Environmental Claims Guidance, communicated to relevant employees through training in 2022,

builds on advice from the World Federation of Advertisers (WFA), evolving EU legislation and Denmark's Consumer Ombudsman. As a signatory to the WFA's *Planet Pledge*, we aim to use our brands as a positive force to help consumers make informed choices that are less damaging to the environment.

**OUR VALUE CHAIN EMISSIONS: ABSOLUTE SCOPE 1, 2 & 3**  
(thousand tonnes CO<sub>2</sub>e)\*



**OUR VALUE CHAIN EMISSIONS: RELATIVE SCOPE 1, 2 & 3**  
(kg CO<sub>2</sub>e/hl)\*



### OUR VALUE CHAIN CARBON EMISSIONS: LATEST VALUE CHAIN ANALYSIS BASED ON 2019 DATA\*



\* 2015 and 2019 restated to exclude Russia.

**PARTNERING TO SHRINK OUR SHARED FOOTPRINT**

We are making good progress on our journey towards ZERO carbon emissions at our breweries. But our own operations, over which we have direct control, account for just 12% of our value chain emissions. Driving down the remaining 88% demands collaboration with, and action by, our suppliers and partners.

We work closely with suppliers to develop and adopt technologies and techniques that can support emissions reductions in each step of the value chain (see page 15).

Sustainability is considered alongside cost in our purchasing decisions for all significant spend in relevant categories, and we encourage key suppliers to follow our lead by adopting science-based targets and switching to renewable energy.

In 2022, major suppliers had their science-based targets approved by the SBTi or started on this journey with public commitments to set science-based targets. Those having their targets approved this year include glass bottle suppliers Ardagh Glass, Verallia and Vidrala, aluminium can suppliers Canpack

Group and Ardagh Metal Packaging, cardboard suppliers DS Smith and WestRock, and plastic bottle supplier Petainer. Suppliers with new public commitments include glass bottle suppliers Wiegand-Glass and Vetropack, and raw material supplier Mittr Phol Group. These supplier commitments and actions will positively impact the raw material and packaging shares of our value chain emissions (see below).

We also engaged with 200 suppliers to encourage them to source renewable energy through an information webinar, organised with

RE100, and we will get a better view of how many suppliers have made the switch to renewables through our new value chain emissions assessment in 2023.

**MOVING TO LOWER-CARBON PACKAGING**

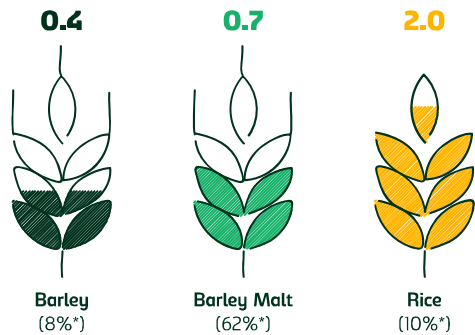
The manufacturing and disposal of our packaging makes up the largest element (41%) of our value chain footprint (see page 15). The majority comes from glass and aluminium, which are both energy-intensive to produce due to the high temperatures involved (see below).

In a UK pilot completed in 2022, we demonstrated emissions reductions of up to 90% by trialling a recycled glass bottle made using bio-based power. Other efforts to reduce the carbon footprint of our packaging in 2022 included further lightweighting and innovations such as our Fibre Bottle, which consumers tried out for the first time this year (see page 30).

The carbon footprint of our packaging also depends on what happens to it after use. Enhancing its recyclability and recycling is central to our ambition for ZERO Packaging Waste (see page 29).

**AVERAGE LIFECYCLE CARBON FOOTPRINT OF OUR DIFFERENT RAW MATERIALS\*\***

(kg CO<sub>2</sub>e per kg of raw material)



\*Share of total raw materials purchased

**AVERAGE LIFECYCLE CARBON FOOTPRINT OF OUR DIFFERENT PACKAGING TYPES\*\***

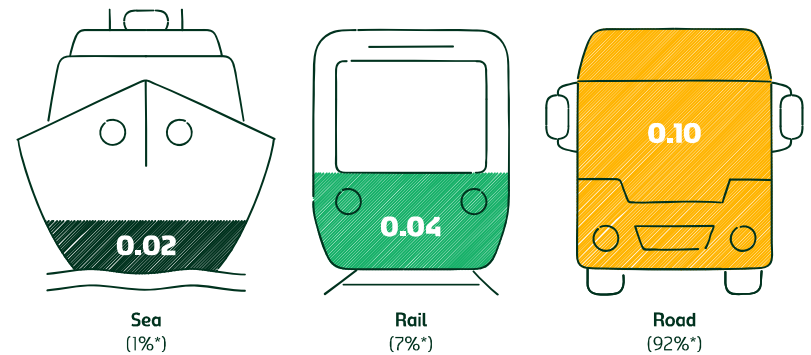
(kg CO<sub>2</sub>e per hl of packed product)



\*Share of total packaging mix

**AVERAGE LIFECYCLE CARBON FOOTPRINT OF OUR DIFFERENT TRANSPORTATION TYPES\*\***

(kg CO<sub>2</sub>e per tonne per km transported)



\*Share of total transportation emissions

\*\* Carlsberg Group global average based on a study conducted with the Carbon Trust based on 2019 data. Results vary from market to market.



## CUTTING CARBON FROM CROPS

After packaging, the second-largest share of our value chain carbon footprint comes from growing and processing the raw ingredients used in our beer.

Malt is the agricultural raw ingredient that we use most of and it has a relatively low emissions intensity compared to other ingredients (see page 16). In Asia, more of our beer is brewed with rice, which has a higher emissions intensity than barley, so finding ways to reduce this intensity will be critical as our business continues to grow in this region. A trial of more sustainable rice farming techniques in Laos has significantly reduced synthetic fertiliser inputs while increasing yield, and we are assessing the resulting emissions reductions (see page 26).

One way to cut emissions from growing raw materials is to develop new crop varieties that need less energy input for cultivation and processing. Scientists at the Carlsberg Research Laboratory are working on perennial varieties that significantly reduce the need for annual ploughing (see page 27) and have developed new types of malting barley that use less energy in the brewing process (see right).

Reducing carbon from our agricultural inputs is a complex challenge and will take time and coordinated efforts. Our new ZERO Farming Footprint ambitions for 2030 and 2040 (see page 22) aim to help tackle this challenge and contribute to long-term improvements by bringing a new focus on regenerative farming as a means of improving soil health and biodiversity, as well as cutting carbon emissions.

Regenerative farming practices can contribute to reducing our value chain emissions and removing carbon from the atmosphere. For example, no- or low-tillage cuts fuel use for ploughing and supports carbon sequestration by the soil. We have already begun working with farmers using regenerative practices to supply barley for two of our beers, in Finland and France, and have made new agreements with farmers to begin the transition to regenerative barley in the UK (see page 24).

## MAKING OUR LOGISTICS SMARTER

Transporting raw materials to our sites and distributing beer to our customers accounts for 11% of our value chain emissions.

Most of our outbound logistics is outsourced, and we have introduced new sustainability criteria for logistics



## CASE STUDY

# BARLEY FOR BETTER BREWING

Scientists at the Carlsberg Research Laboratory have developed new types of barley that cut carbon by reducing the amount of energy and synthetic inputs needed for the malting and brewing processes – achieving the desired flavour with less kilning, evaporation and filtration. This advance comes through selective breeding, not genetic modification.

Trials of a new barley variety at our Northampton brewery in the UK in 2022 demonstrated a reduction in energy use of up to 25% during wort boiling in the brewing process – with the level of savings achieved depending on the different energy systems in place at our breweries. Malting began on the first crop in 2022, and we will be rolling out this novel type of malting barley in Scandinavia, followed by other markets in Western Europe. We also want to make the new variety available to other brewers to extend its environmental benefits.

providers to drive improvements. In 2022, our largest ever logistics tender, covering the whole of China, included criteria on fuel use and emissions reductions.

We need a variety of transportation types to deliver our products to customers and get them into consumers' hands. Whether transportation is by road, rail or sea can make a significant difference to emissions (see page 16). Most of our land transport is still by road and we are moving to lower-carbon solutions where feasible across or within the transportation types. This could mean, for instance, that we move from diesel to biogas or electric trucks if moving to rail or sea transport is infeasible and if the trucks can cover required distances.

In 2022, we started using a new rail route in Norway, from Oslo to Trondheim, that avoided 69 tonnes of CO<sub>2</sub> emissions in the first six months alone. But we are limited by available rail routes, and similarly efforts to use more electric trucks are constrained by the availability of charging infrastructure and suitable electric vehicles.

Much of our transport is by road, and we continue to drive efficiencies in our own fleets in Denmark, Norway and Switzerland, contributing to a roughly 13%

reduction in fuel consumption per 100 km driven versus 2017.

Our fleet of 20 electric delivery trucks in Switzerland completed its first full year in operation, driving around 271,349 km and avoiding nearly 190 tonnes of CO<sub>2</sub> emissions compared with diesel trucks.

We are also running pilots to help us assess the best low- or no-emissions options to suit the needs of our business and meet anticipated regulatory requirements. In Norway we have ordered a fleet of biogas trucks for a trial in Oslo, and in the UK, we have begun trialling two electric road trucks for secondary distribution along two urban routes which are suitable for the vehicle range. In Sweden, we are electrifying the transport from our brewery to an external warehouse (see right) and looking at extending this approach to other warehouses near our breweries.

Switching to electric vehicles is also a focus within our warehouses. At our Kuala Lumpur site in Malaysia, all 18 forklift trucks have been converted from LPG to electric, saving 194 tonnes of CO<sub>2</sub> per year, and we installed new charging facilities at our largest warehouse in Poland to support wider use of electric forklift trucks. We now have 2,046 electric forklift trucks in



CASE STUDY

## ELECTRIFYING THE WAREHOUSE SHUTTLE

Regular short journeys between breweries and nearby warehouses provide an excellent setting for electric vehicles because trucks can recharge as they wait.

We are using electric trucks to take stocks from our Falkenberg brewery in Sweden to the warehouse located 10 km away. This sustainable transport solution has been developed together with technology company Einride, which provides the trucks, software and charging infrastructure. Electrification of the shuttle will reduce carbon emissions by 80 tonnes a year compared with using diesel.

**"It's great fun to now get rolling together with Carlsberg Sverige. This is just a first step in a long-term and ambitious partnership to reduce Carlsberg's transport emissions by 93% compared to diesel."**

**Robert Ziegler**  
General Manager Europe,  
Einride

operation globally, representing 71% of our fleet. A new tendering approach requires forklift suppliers in all markets to demonstrate emissions reductions over time.

### CUTTING IMPACTS FROM COOLING

Keeping our products cool in bars, restaurants and shops accounts for 9% of our value chain footprint. To reduce these emissions, we are investing in more efficient fridges and coolers whenever they need to be replaced – every eight years on average.

Any new fridges we buy must include energy management systems and hydrocarbon refrigerants, which have a lower climate impact than hydrofluorocarbons. In 2022, we achieved 98% lower-climate-impact cooling.

We reduced energy consumption across all new fridges and beer dispense equipment, for example by using energy management devices and removing fridges with hydrofluorocarbon (HFC) refrigerants from our purchasing catalogue. We fell just short of our 100% target with some cases in Asia and Eastern Europe still having HFC refrigerants in beer dispense equipment.

Through the Beverage Industry Environmental Roundtable (BIER), in 2022 Carlsberg and other global beer and soft drinks producers came together with 23 world-leading fridge manufacturers at the first Cool BIER conference. The focus was on energy efficiency and circularity to create more sustainable cooling. Together, we committed to form a new sustainability coalition to accelerate this change.

## REPORTING ON CLIMATE-RELATED FINANCIAL RISKS AND OPPORTUNITIES

We analyse and report on the risks of climate change to our business in line with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD).

Our latest TCFD disclosure is included in our *2022 Annual Report*. It summarises our climate-related governance, strategy, risks, metrics and targets, linking to more information on our approach in this ESG Report and elsewhere.



### CASE STUDY

## TURNING BREWING BY-PRODUCTS INTO FEED AND FERTILISER

The majority of our production waste is made up of spent grains and waste yeast – totalling around 1.3 million tonnes a year from our breweries around the world. These by-products from brewing processes can be valuable inputs for farmers. In 2022, 97% was used as animal fodder and 3% as fertiliser.




In Malaysia, we have been supplying these by-products for livestock feed since 2019, amounting to more than 17,000 tonnes of spent grains and more than 3,000 tonnes of spent yeast in 2022. Some was used for cattle fodder and the rest became an ingredient in a protein-rich feed. The bioconversion process used to make this feed also uses our filter material and waste yeast to cultivate black soldier fly larvae into insect meal and insect oil as a source of protein for a wider range of animals.

# ZERO CARBON FOOTPRINT: OUR PROGRESS & TARGETS

PLANNED ACTIONS FOR 2022	STATUS	PROGRESS IN 2022	2022 TARGETS	STATUS	PLANNED ACTIONS FOR 2023	2030 TARGETS	2040 TARGET
Explore and develop further thermal efficiency programmes		Installed energy loop heat recovery system in Poland, using waste heat from the burning of spent grains	<b>50% reduction in carbon emissions at our breweries</b>	 <b>Fully achieved (-57%)</b>	Explore using biogas boilers fuelled by biomethane captured from on-site water treatment plants at breweries in China and Europe	<b>ZERO carbon emissions at our breweries</b>	<b>Net ZERO value chain</b>
Explore replacing fossil fuel-based thermal energy (or heat generation) with renewables		Replaced fossil oil with biofuel in Norway and installed solar thermal technology ahead of a pilot in 2023			Begin a pilot of solar thermal technology in Greece		
Purchase renewable electricity at all breweries where feasible		Sourced 92% of our electricity from renewable sources, with just four markets remaining where suitable certifications are not available	<b>100% electricity from renewable sources at our breweries</b>	 <b>Partially achieved (92%)</b>	Install electric boiler powered by renewable energy in Denmark		
Enter power purchasing agreements in relevant markets		Secured our first off-site power purchasing agreement in Denmark and explored opportunities in other markets			Expand renewable electricity from new assets through additional on-site and off-site power purchase agreements		
Convert the boiler at our Aurangabad brewery in India – our last remaining use of coal – to biomass		Completed the conversion to biomass at our Aurangabad brewery in India	<b>ZERO coal at our breweries</b>	 <b>Fully achieved (ZERO)</b>			

Fully achieved  
 Partially achieved  
 Not achieved

## ZERO CARBON FOOTPRINT: OUR PROGRESS & TARGETS

PLANNED ACTIONS FOR 2022	STATUS	PROGRESS IN 2022	2022 TARGETS	STATUS	PLANNED ACTIONS FOR 2023	2030 TARGETS	2040 TARGET
Engage with additional packaging and malt suppliers to support their transition to renewable electricity		Hosted webinar with RE100 for direct material suppliers in agriculture and packaging to kick-start discussions on procurement of renewable energy	<b>15% reduction in value chain carbon emissions<sup>1</sup></b>	<b>To be assessed and reported in 2023</b>	Complete and communicate 2022 value chain analysis to define actions and raise awareness among procurement teams	<b>30% reduction in value chain carbon emissions (from 2015)</b>	<b>Net ZERO value chain</b>
Continue to pursue reductions in carbon emissions in the areas identified for all steps in the value chain, from growing crops to packaging, transporting and chilling our beer		Continued to take action to reduce emissions in every step of the value chain. Examples include launching a new ambition on sustainable and regenerative farming, trialling lightweight cans, testing our innovative prototype Fibre Bottle with consumers, introducing new sustainability criteria for logistics suppliers, and achieving our target of 100% low-climate-impact cooling					
Introduce energy management systems in all replacement fridges to reduce electricity use and related carbon emissions		Introduced energy management systems across our newly purchased fridges <sup>2</sup>			<b>100% low-climate-impact cooling</b>		

 Fully achieved  
  Partially achieved  
  Not achieved

<sup>1</sup> Value chain was previously referred to as beer-in-hand.

<sup>2</sup> Excluding approved exceptions, which achieve 20% or more in energy reduction through other measures.

# ZERO Farming Footprint

**Our bold new ambition aims to drive action on climate and biodiversity through regenerative agriculture and sustainable sourcing of ingredients.**

Soil is critical for life on earth. It underpins food production, stores carbon, maintains biodiversity, purifies water, and helps to mitigate flooding and drought. But modern agricultural techniques have led to land degradation and contribute to greenhouse gas emissions that drive climate change<sup>1</sup>.

The use of synthetic fertilisers and pesticides made from fossil fuels produces CO<sub>2</sub>, methane and nitrous oxide, while excess fertiliser contaminates nearby waterways. Heavy tillage releases CO<sub>2</sub> from the soil, contributing to climate change that in turn affects crop production. Increasingly frequent flooding, drought and heatwaves can reduce the quality and yield of crops – including barley – in many parts of the world<sup>2</sup>.

Every year, we buy more than a million tonnes of raw materials to make our beer. By changing how we source these, we aim to reduce our value chain emissions, secure our supply, improve farmers' livelihoods – and drive a wider shift to regenerative farming for the beer industry and beyond.

We will do this by collaborating with others to define and adopt regenerative agricultural practices. Such farming methods aim to restore soil health, nurture biodiversity, and increase the capacity of soils to capture and store carbon.

By 2030, our target is for 30% of our raw materials to be grown using regenerative practices and be sustainably sourced – on our way to 100% by 2040. We have already secured barley that is grown using regenerative practices for beers in Finland and France, and the UK will be next.



2.3.1 & 2.4.1



12.2.1, 12.2.2 & 12.6.1



13.1.1



14.1.1



15.3.1 & 15.5.1

See SDG index, page 85.

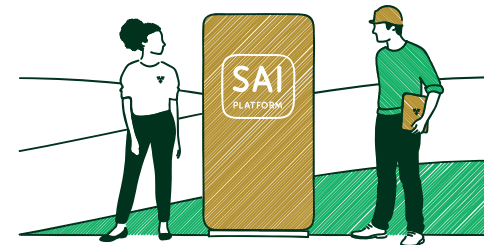
## Bold new ambition

set to drive uptake of regenerative agriculture through our sourcing as part of Together Towards ZERO and Beyond



## Joined the Sustainable Agriculture Initiative Platform

to establish a common understanding and standards for regenerative agriculture



## Towards regenerative barley

sourced barley grown using regenerative practices for two beers, in Finland and France – and plan to expand this to the UK in 2023



**-70%**

synthetic fertiliser and 33% higher yield in Lao sustainable rice trial



### By 2040:

› **100%** of our raw materials are from regenerative agricultural practices and are sustainably sourced

### By 2030:

› **30%** of our raw materials are from regenerative agricultural practices and are sustainably sourced

<sup>1</sup> Intergovernmental Panel on Climate Change: Climate Change and Land.  
<sup>2</sup> Xie, W et al, Decreases in global beer supply due to extreme drought and heat, Nature Plants 4 (2018).



# TOGETHER TOWARDS ZERO AND BEYOND IN ACTION: ZERO FARMING FOOTPRINT

## RETHINKING THE BARLEY SUPPLY CHAIN

The barley used to make our Kronenbourg 1664 Blonde beer is changing. We have partnered with malt producer Malteries Soufflet and grain buyer Soufflet Agriculture (part of the InVivo agricultural group) to create the first sustainable and traceable "Responsible Barley" supply chain in France.

In 2022, together with our partners we brought together 45 farmers who are implementing a set of regenerative practices to promote biodiversity and reduce the carbon footprint of farming. These techniques include: diversified crop rotations to promote biodiversity; sowing cover crops during fallow periods to increase soil carbon; and optimising fertiliser input based on regular soil analysis.

We use blockchain technology to enable full traceability and verify responsible production from the field to our brewery. The farmers are guaranteed fair remuneration through a bonus scheme to reward their commitment to using more sustainable practices while maintaining the same high level of barley quality.

From 2023, 20% of the malt used to brew our Kronenbourg 1664 Blonde beer will be sourced from barley that is grown using these regenerative practices, with a production target of 900 hectares. By 2026, we aim to reach 100% by involving around 250 farmers producing barley on 5,000 hectares.

While further requirements need to be met to consider this barley fully regenerative, the adoption of these techniques takes us a big step forward on the path towards a ZERO Farming Footprint in France.

[Watch interviews with our partners on the ground here.](#)

"We're very happy to work with Kronenbourg SAS in this value chain approach, which promotes good agroecological practices. As a committed maltster partner, Malteries Soufflet has always been deeply concerned about the challenges of all stakeholders, from farmers to consumers. Therefore, we support farmers' produce while developing sustainable practices, in order to continuously improve our response to customer expectations."

Guillaume Couture  
CEO, Malteries Soufflet

"This strong and engaging approach, developed with our partners Malteries Soufflet and Soufflet Agriculture, is part of Kronenbourg's long tradition of prioritising the environmental and social impacts of its activities. It also illustrates our passion for the art of brewing and for innovation."

Anders Røed  
Chairman and CEO, Kronenbourg SAS



## SHAPING THE FUTURE OF FARMING

Regenerative practices cover a wide range of techniques. They include: minimising soil disturbance; keeping land covered between harvests with crops that maintain carbon sequestration as well as nutrient retention (of nitrogen specifically) within the soil – supporting its structure and fertility, and future yields in turn; diverse crop rotations; agroforestry; planting buffer strips; and targeted use of fertilisers in line with crop demand.

Using regenerative techniques to improve soil structure increases water holding capacity, which in turn provides greater resilience to the changes in climate already under way.

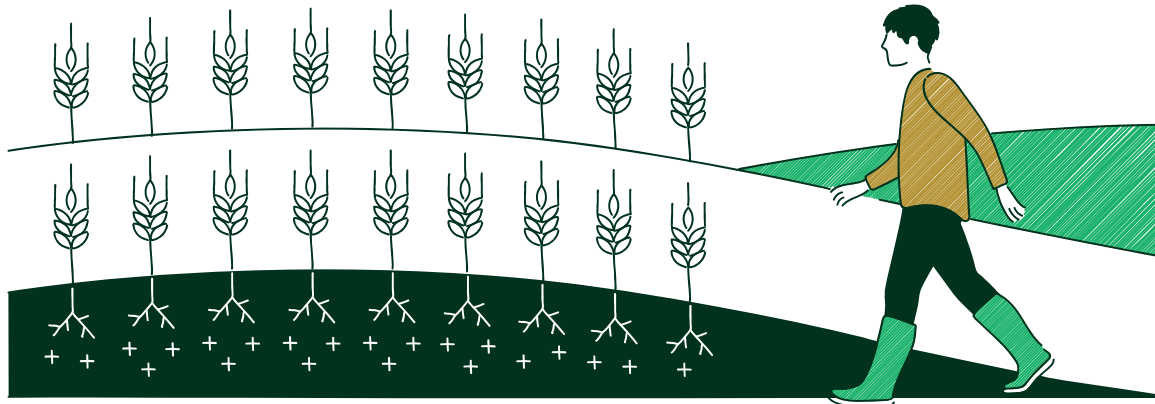
Some of these practices also contribute to soil carbon storage and biodiversity<sup>3</sup>, and support reduced use of inputs such as synthetic fertilisers and pesticides. Our trial of more sustainable rice farming methods in Laos enabled reduced synthetic fertiliser use while delivering higher yields (see page 26).

We are exploring opportunities to source more grains from farms that use regenerative agricultural practices. Our KOFF brand in Finland has led the way with the barley for its KOFF Christmas beer (see page 25).

From 2023, we will be producing our Kronenbourg 1664 Blonde beer using a 20% proportion of barley malt derived from grains grown using

some regenerative practices in France (see page 23). In the UK, we set progressive targets towards 100% regeneratively sourced barley for our Carlsberg Danish Pilsner, to be followed by all UK brands. To start the transition in 2023, this year we consulted with expert partners to tailor our approach to the UK market and secured new agreements with our first partner farmers.

As we begin to put regenerative farming into practice, we must ensure that grains continue to meet the high quality standards we need to make our beer. In Denmark, we are assessing the quality of grains, and the resulting malt, from barley grown with minimal tillage to compare this with grains from conventional farming.



<sup>3</sup> European Academies' Science Advisory Council: *Regenerative Agriculture in Europe*.

## WHAT WE MEAN BY ZERO FARMING FOOTPRINT

### REGENERATIVE AGRICULTURAL PRACTICES

By 2030, we aim to have 30% (by weight) of our raw materials grown using regenerative agricultural practices, increasing to 100% in 2040.

We are working with others to define a common understanding of regenerative practices. In the meantime, our global criteria for raw materials to be considered regeneratively grown include a field being cultivated with no or low tillage, soil being covered for 95% of the year, a minimum of four crops on the same plot over four harvest seasons, use of synthetic fertilisers and pesticides not exceeding what the crop requires (to avoid their overuse and long-term damage to biodiversity in soils and waterways), and all practices being fully documented and traceable.

These global criteria are mandatory to count towards our target, unless local field or climate conditions justify different regenerative practices. Farmers also have the option to use field borders as habitats for pollinators or other beneficial insects, to restore soil with compost or organic manure, or to integrate livestock (where feasible) to further support biodiversity.

### SUSTAINABLY SOURCED RAW MATERIALS

By 2030, we aim for 30% (by weight) of our raw materials to be sustainably sourced, increasing to 100% in 2040. Sustainably sourced raw materials are produced at farms that are externally certified to at least bronze level of the Farm Sustainability Assessment (FSA), developed by the Sustainable Agriculture Initiative Platform (SAI Platform), or at farms certified under schemes that cover the same scope as the FSA.



**WORKING TOGETHER**

A shift to regenerative practices requires fundamental changes to the conventional agricultural model, which has been optimised primarily for yield. Delivering these far-reaching changes demands a collaborative approach that engages not only farmers but also buyers from other industries. Collaboration is key to define common standards and develop best practices to support a paradigm shift that sustains and engages stakeholders along the value chain (see page 26).

In 2022, we joined the *Sustainable Agriculture Initiative Platform* (SAI Platform) to build alignment among food and beverage producers, farmers' representatives and others along the agricultural value chain – and to expand our collective impact for the good of farmers and the planet. SAI Platform also aims to develop synergies that support regenerative agriculture beyond the farm level.

We are encouraging farmers to adopt sustainable and regenerative practices by initially engaging with farmer groups and suppliers in Finland, France, Denmark and the UK. A more direct dialogue and closer collaboration with farmers will help us improve the quality of the data we use to determine the carbon footprint from the agricultural stage



**CASE STUDY**

**BACKING REGENERATIVE FARMING**

Our KOFF brand has pioneered Carlsberg's sourcing of barley from farmers who are committed to regenerative agriculture – for its KOFF Christmas beer in Finland. The malted barley can be traced from field to glass, with all aspects of its production being audited by supplier Viking Malt.

Following on from its success with one regenerative farm in previous years, KOFF began sourcing from a second farm for its 2022 festive brew. These farms are setting an example for other farmers to follow by

adopting regenerative practices such as crop rotation, including soil restoration grasses.

Both farms are also part of a Climate Action pilot run by the Baltic Sea Action Group (BSAG), which has assessed their farming operations as Baltic Sea-friendly. Together with these farmers and BSAG, we aim to bring more farmers to the Carbon Action pilot and encourage the wider adoption of regenerative practices to pave the way towards regenerative farming at scale in Finland.

[▶ Watch interviews with BSAG and our partner farmers on the ground here.](#)

**"Our farm is one of about 100 Carbon Action farms in Finland. Through the Carbon Action platform, farmers and researchers share their experiences and expertise in regenerative farming. It's also important for us that the value chain that buys our barley shares our values and that all the players in the chain participate in environmental work together."**

**Sirkku Puumala**  
Farmer supplying regenerative barley for KOFF Christmas beer in Finland

of our value chain. Increasing the number of first-mover farmers will also encourage others to make changes as they see their peers enhance their yields and livelihoods.

To assess whether our raw materials are sustainably sourced, we will use SAI Platform's Farm Sustainability Assessment (FSA) and expect farms to achieve bronze-level certification as a minimum. The FSA requires raw materials to be produced in a manner that ensures safe, high-

quality raw materials, and that protects and improves the natural environment as well as the social and economic conditions of farmers and their communities. Assessing how many of the farms that supply us are already FSA-certified will be an important first step to help us inform our actions and measure progress towards our ZERO Carbon Footprint targets.

## DEFINING A COMMON UNDERSTANDING

### KEY CHALLENGE

We have defined a set of criteria for regenerative agriculture to enable us to measure progress towards our ambition (see page 24 on what we mean by ZERO Farming Footprint). But as yet there is no universally agreed definition.

Defining a common understanding and shared standards is an important step in enabling farmers to make the changes required to achieve regenerative agriculture by ensuring all their buyers will accept the practices they adopt. This is particularly important because crop rotation – a central pillar of regenerative agriculture – requires each field to produce different crops from one season to the next that may go to different buyers.

SAI Platform, which we joined this year, brings together more than 160 members across the agricultural supply chain, from farmer cooperatives to multinationals, to develop common standards, metrics and tools.



### CASE STUDY

## BOOSTING RICE YIELDS SUSTAINABLY IN LAOS

Over the last three years, we have been working with 30 farmers in Laos to trial more sustainable farming methods for growing rice as a raw material for our local brews.

The farmers used organic fertilisers, including wastewater sludge from brewing, and stopped burning rice fields and straw. They also tested new farming methods, including alternate wetting and drying, where rice paddies are allowed to dry and are re-irrigated when necessary, instead of leaving continual standing water that causes methane emissions. This technique can reduce both water consumption and the carbon intensity of rice production.

In just three harvest seasons, rice yields from the 30 hectares in the trial have increased by 33%, and synthetic fertiliser use is down by 70%. Farmers have also cut organic fertiliser use by 60%. We will assess the emissions reductions from the techniques used in the trial to understand their potential in our wider rice supply chain.



## CASE STUDY

# CROPS FOR THE FUTURE

We are engaged in long-term research projects to produce varieties of grains that can tolerate the changing climate. The challenges to improve crop yields, quality and resilience are being addressed by state-of-the-art research tools developed by us and our partners.

A team at the Carlsberg Research Laboratory has developed a screening tool, known as FIND-IT, that can fast-track screening of thousands of individual plant lines to find a genetic variant that is likely to better tolerate heat or drought. This enables more targeted research and development to speed up the emergence of new crop varieties for the future – without the use of genetic modification – that will be able to sustain

yields in a changing climate. The research was published in *Science Advances* in 2022.

The technology is being used in our own projects to accelerate the breeding of climate-resilient cereals with high yields. These include sorghum, which already grows well in dry regions, and intermediate wheatgrass – a type of wild perennial grass producing grains with similar qualities to wheat and barley – that requires less inputs and has a deep root system that retains water and contributes to soil biodiversity and carbon storage. Significantly improving the yield of intermediate wheatgrass could one day provide a sustainable alternative to cereals such as wheat and barley.

**"We're very proud that the Carlsberg Research Laboratory continues to build on its long scientific reputation with the invention of the FIND-IT methodology, which we believe will prove to be a ground-breaking technology that will empower researchers worldwide to address global challenges."**

**Prof. Soren-Peter Olesen**  
Chairman of the Carlsberg Research Laboratory  
Supervisory Board

## INNOVATING FOR BETTER CROPS

We are investing in research projects to develop new raw materials for brewing that will have a lower climate impact, as well as being more drought-resilient. This research also aligns with our goal of developing regenerative agricultural practices.

For example, we are exploring the potential of a perennial crop, intermediate wheatgrass. Perennial crops come back year after year, avoiding the need for annual ploughing and associated carbon emissions from fuel use. The plant's extensive root systems also boost soil structure, biodiversity and carbon sequestration, and aid nutrient and water retention.

Scientists at the Carlsberg Research Laboratory have also developed a novel type of malting barley that offers a lower carbon impact by reducing the energy required for malting and brewing. We are now trialling it in the UK (see page 17). In addition, climate-resilient barley with increased tolerance to drought and heat is under development in collaboration with academic partners around the world.

## ZERO FARMING FOOTPRINT: OUR PLANS & TARGETS

### PLANNED ACTIONS FOR 2023

Engage through SAI Platform to help define and advance the adoption of regenerative agricultural practices in the wider farming value chain

Source 20% of the malt used to brew Kronenbourg 1664 Blonde from barley grown with some regenerative practices

Explore opportunities to source more regeneratively grown raw materials, with an initial focus on barley

Explore how to effectively integrate sustainable sourcing criteria into our purchasing of raw materials

Continue to develop and roll out climate-resilient barley varieties

Research the impacts of regenerative practices on quality, biodiversity and carbon impacts

### 2030 TARGETS

**30% of raw materials from regenerative agricultural practices and sustainably sourced**

### 2040 TARGETS

**100% of raw materials from regenerative agricultural practices and sustainably sourced**

# ZERO Packaging Waste

**At Carlsberg, product sustainability is not just about what we put into our beer – it’s also about what we put our beer into.**

Packaging plays a fundamental role in getting our beer to consumers and making sure product quality is maintained from our brewery to their glass. It also has a significant influence on which products people buy.

Consumers are increasingly concerned about the environmental impact of packaging and growing regulations, such as the proposed EU Packaging and Packaging Waste Regulation, make sustainable packaging an important focus area for our business.

This is not new for Carlsberg. Driving down the climate impact of our packaging has been, and remains, a key driver of our ZERO Carbon Footprint ambition, as it accounts for the largest share (41%) of our value chain emissions.

We have been working with suppliers and partners to cut this footprint by lightweighting bottles and cans, opting for lower-carbon options where feasible, and innovating to create more sustainable solutions.

Now, we are building on these efforts to improve the carbon footprint of our packaging through increased focus on its circularity. With our new focus on ZERO Packaging Waste, we have set ambitious targets to drive progress towards circular packaging.

By 2030, we want all our packaging to be recyclable, reusable or renewable. We want to use less virgin plastic and more recycled content – and we want to ensure that at least 90% of our bottles and cans get collected and recycled after use to support this circular approach.



12.2.1, 12.2.2, 12.5.1 & 12.6.1



14.1.1

See SDG index, page 85.

## New targets

launched to promote circularity through our new focus on ZERO Packaging Waste



## 8,000

Fibre Bottle prototypes produced and tested by consumers in Western Europe



## 70%

of four- and six-can multipacks in the UK use Snap Pack, cutting plastic use by up to 76% per pack



## 66%

return rate for our Aldaris brand bottles following the introduction of a deposit return scheme in Latvia



## 5.3 billion

returnable glass bottles washed and refilled worldwide in 2022



## 2,064 tonnes

of plastic wrap sourced in Europe made with 100% recycled plastic, from e.g. post-consumer waste and recycled materials from Carlsberg sites



### By 2030:

- › **100%** recyclable, reusable or renewable packaging
- › **90%** collection and recycling rate for bottles and cans
- › **50%** reduction of virgin fossil-based plastic
- › **50%** recycled content in bottles and cans



# TOGETHER TOWARDS ZERO AND BEYOND IN ACTION: ZERO PACKAGING WASTE

## MOVING FORWARD WITH OUR FIBRE BOTTLE

Renewable and recyclable are the buzzwords for circular packaging – and critical to our ZERO Packaging Waste ambitions. Our Fibre Bottle is both.

Six years in the making, this bio-based and fully recyclable packaging innovation is now in its second-generation design and we will continue to refine it. The Fibre Bottle is made from wood fibres and polyethylene furanoate (PEF), a plant-based polymer developed by Avantium, our partner and leading expert in renewable chemistry. It is derived entirely from natural raw materials (excluding the cap).

The vision for the bottle is to design it for recycling through mainstream post-consumer collection schemes, and should it end up outside the recycling system it will also degrade naturally. Based on expected scaling of production capacities and planned design iterations, the carbon footprint of the future Fibre Bottle is expected to be 80% lower than that of the single-use glass bottles of today.

In 2022, we took this innovation a step closer to commercial reality by putting 8,000 second-generation Fibre Bottles into the hands of consumers for the first time – at festivals, flagship events and sampling sessions across eight Western European markets: Denmark, Finland, France, Germany, Norway, Poland, Sweden and the UK.

Feedback from the trial will inform the next-generation design, and next steps will focus on a renewable solution for the cap, the only part of the Fibre Bottle that is not yet 100% bio-based.

The pilot has helped us gain insights to prepare for production at scale so we are ready to integrate the Fibre Bottle into our commercial packaging portfolio to expand consumer choice.

[▶ Watch Carlsberg's campaign video here.](#)

"2022 was a landmark year in the development of our Fibre Bottle. We've taken a big step on a long journey, driving progress through our entrepreneurial approach and collaboration with Avantium, Paboco and other partners. Production of prototypes at our pilot plant in France has provided valuable insights to help us overcome technical challenges to achieve high-speed production at scale, and insights from consumers will help to optimise our next-generation Fibre Bottle."

Marine Andre  
Packaging Innovation Director,  
Carlsberg Group

"It's a truly exciting milestone that – for the very first time – consumers can now experience a PEF-lined beer bottle. With business partners such as the Carlsberg Group, Avantium can further scale and build the PEF value chain, meeting the growing global demand for circular and renewable material solutions. This is what the material transition is about: ensuring that people can get access to novel and sustainable products at scale."

Tom van Aken  
CEO, Avantium



## TOWARDS ZERO PACKAGING WASTE

Our ZERO Packaging Waste ambitions aim to drive progress towards a circular economy that will help tackle global challenges such as climate change, biodiversity loss, waste and pollution.

The *Ellen MacArthur Foundation* defines three key principles of a circular economy – to eliminate waste, circulate products and materials at their highest value, and regenerate nature. We have translated these principles into a series of ambitious targets that go beyond our previous efforts on packaging as part of our value chain carbon footprint to increase our focus on circularity and material use.

Action to achieve these targets includes exploring opportunities to cut material use through lightweighting, reduce use of virgin fossil-based plastic, introduce more recycled and renewable content, make packaging recyclable or reusable, and innovate to create more sustainable solutions. As we do not make packaging ourselves, we will work closely with our suppliers to deliver on these actions.

We also aim to boost collection and recycling rates for used bottles and cans to support a circular economy and create a reliable supply of post-consumer recycled content to go into new packaging. The more we collect, the more recycled content is available to go back into the value chain for companies, including Carlsberg, to use in their packaging.

To help drive progress towards our ZERO Packaging Waste targets, we plan to develop and launch an internal policy and associated training in 2023, that will include definitions and methodologies to support our product sourcing, innovation and marketing teams. Our new internal Environmental Claims Guidance and training sets out what environmental claims we can make in relation to packaging.

## INNOVATING FOR SUSTAINABLE PACKAGING

Achieving our ZERO Packaging Waste ambitions requires innovation in packaging design, and we can only do this in close partnership with suppliers and partners, sharing scientific expertise and know-how openly to drive progress.

## WHAT WE MEAN BY ZERO PACKAGING WASTE

### RECYCLABLE, REUSABLE OR RENEWABLE

We aim for all our packaging to be 100% recyclable, reusable or renewable by 2030. Packaging is considered recyclable if its post-consumer collection, sorting and recycling are proven to work in practice and at scale. Packaging that can only be recycled into applications that do not allow further use cycles is not considered recyclable. Packaging is reusable if it has been designed to be used at least twice in the same application. Renewable packaging is made of biomass from a living source that can be continually replenished.

The scope of the target includes all primary packaging that is in direct contact with our product (such as glass bottles or cans) and consumer-facing secondary packaging used to help consumers take the product home (such as shrink film and cardboard holding multipacks together).

### COLLECTION AND RECYCLING

We are targeting a 90% collection and recycling rate for bottles (glass and plastic) and cans by 2030, measured by comparing hectolitres of beer sold in each market with the recycling rate per packaging type in that market. The target also includes polymer and steel kegs. It excludes closures and labels.

### RECYCLED CONTENT

We aim to reach 50% recycled content in our bottles (glass and plastic) and cans. Recycled content must come from post-consumer recycled material (such as aluminium from cans that have already been used to deliver beverages and have then been discarded by consumers), as defined by the international ISO 14021 standard. It excludes pre-consumer recycled material (such as production scrap). The target also includes single-use polymer kegs.

### VIRGIN FOSSIL-BASED PLASTIC

We aim to reduce our use of virgin fossil-based plastic by 50% by 2030. This can be achieved by reducing the amount of plastic needed through lightweighting, or by replacing virgin fossil-based plastic with recycled content or renewable materials (as defined above), such as recycled PET or PEF.

We engage with key packaging suppliers to give them a vision of the sustainability-related innovations we are looking for – including through workshops and special innovation

days – and we work together to deliver these. Together, we aim to develop innovative new packaging solutions that can create a step

change on our journey Together Towards ZERO and Beyond.

Our ground-breaking Snap Pack – which cuts plastic use by up to 76%

per multipack by replacing plastic rings or shrink wrap with glue dots that hold the cans together – was launched in 2018 and is now available in four markets. In the UK, Snap Pack is already used for 70% of the four- and six-can multipacks produced at our Northampton Brewery and this will increase to 100% by 2024. As well as cutting material use, Snap Pack also replaces plastic rings that can harm wildlife if they are not disposed of correctly and end up in the environment.

While innovation is essential to making packaging more sustainable, we must ensure that quality is not compromised by any changes we implement, and that the resulting packaging is commercially viable. The innovation scorecard helps us weigh these criteria in our decision-making, and we plan to introduce a system that monetises sustainability considerations within the scorecard.

## BRIDGING THE GAP BETWEEN PERCEPTION AND REALITY

### KEY CHALLENGE

We use recognised scientific methodologies, such as lifecycle analyses, to inform our assessment of the environmental impacts of different packaging solutions for our products in specific markets and applications.

Often, we find there is a mismatch between what the science tells us and what consumers perceive as the most sustainable options.

For example, consumers generally believe that using cardboard to hold together multipacks of beer cans or bottles is a more sustainable choice than plastic shrink wrap. However, lifecycle analysis shows that shrink wrap made of virgin fossil-based plastic has a significantly lower carbon footprint than fully enclosed board solutions, and recycled plastic shrink wrap improves this even further.

On the other hand, cardboard has the benefit of being a renewable material to support circularity. The addition of our new ZERO Packaging Waste targets to reduce use of virgin plastic and increase recycled or renewable content, alongside our ZERO Carbon Footprint value chain target, will help us balance these dual environmental demands to choose the best option in each case.

Similarly, many people regard an item of packaging made from 100% recycled material as being better for the environment than something that is not. But if that item cannot in turn be recycled, it may be less sustainable than something with lower levels of recycled material that can be reused again to increase its circularity.

Mindsets also vary in different countries. Consumers in France, for example, are likely to see glass bottles as a more sustainable option than cans, whereas in the UK perceptions tend to be the other way round.

Bridging the gap between consumer perception and reality is a key challenge to overcome as we seek to increase uptake of our most sustainable packaging solutions.

In 2022, we took our innovative bio-based and fully recyclable Fibre Bottle to consumers for testing as we continue to refine its design (see page 30). We have also signed a conditional offtake agreement with our partner Avantium to secure a fixed volume of the 100% plant-based, recyclable and high-performance polymer PEF that is used in our prototype Fibre Bottle and could potentially be incorporated into other packaging applications.

To drive progress in future sustainable packaging innovations, we introduced an innovation scorecard in 2022 to ensure that our Innovation Board of commercial executives considers sustainability criteria as part of its review of every global packaging innovation.

## REDUCING USE OF MATERIALS

Lightweighting cuts the amount of aluminium used to make cans and the amount of glass or plastic needed to make bottles. As well as reducing material use, this has the added benefit of reducing fuel and emissions associated with transportation of our packaged products.

We have already made significant progress in this area, and material use in aluminium cans is highly optimised, but we are continually on the lookout for further weight reductions in partnership with suppliers. For certain suppliers, we agree incremental improvements in lightweighting as part of their multi-year contracts with us.



Achievements in 2022 include:

- Cutting the weight of cans in six Western European markets by an average of 3.2%.
- Reducing our 330 ml Carlsberg and Tuborg glass bottles by 6.8% and 4.6% respectively in China, cutting material use by more than 3,200 tonnes in 2022.
- Reducing the weight of glass bottles by a combined total of almost 750 tonnes in Azerbaijan, Belarus and Kazakhstan.
- Lightweighting PET bottles to cut virgin fossil-based plastic by more than 22 tonnes in Azerbaijan and Belarus.
- Piloting use of lighter-weight board for secondary packaging in China that cuts the amount of material needed for our corrugated cartons by 6%.

## USING MORE RECYCLED OR RENEWABLE MATERIALS

We are engaging with suppliers to increase the amount of recycled or renewable content in our packaging. Examples in 2022 include:

- **Recycled glass:** We completed a one-year trial of 1 million bottles made with 80% recycled glass for

our Carlsberg Danish Pilsner brand in the UK.

- **Recycled PET:** We increased recycled content in our PET plastic bottles to 49% in Denmark, 52% in Finland and 57% in Switzerland.
- **Recycled shrink wrap:** We have been working with our main European supplier of shrink wrap, Reborn, to increase recycled content (see right).

To meet our targets, we are collaborating with suppliers and deposit return scheme (DRS) partners to optimise our approaches to packaging – from design to procurement, production and collection for recycling after use. This year, we began collecting detailed data on packaging from our suppliers to help us make informed decisions on the use of recycled materials and learn from trials to evolve our approach.

For example, working with Infinitum in Norway we learned that 80% recycled content works best for our PET bottles, for maintaining quality and allowing future recyclability in the closed-loop national recycling system. We adjusted our product portfolio, including our Imsdal and Farris water bottles and our 0.5 L soft drinks bottles, and launched consumer-facing communications explaining the changes and how these could help optimise plastic



Image ©Reborn

### CASE STUDY

## USING CIRCULAR SHRINK WRAP

We use plastic (polyethylene) shrink wrap in our breweries as secondary packaging to secure products to pallets for transport. We are partnering with our European supplier, Reborn Normandie, to make this shrink wrap circular.

The concept is simple: we source Reborn's R100 recycled shrink wrap which is made from 100% recycled material, we send back any polyethylene waste from our breweries, and then Reborn makes it into new R100 material.

The R100 shrink wrap is made from at least 50% post-consumer waste and the rest comes

from post-industrial (pre-consumer) sources, including waste polyethylene from our breweries. The plastic we return from our breweries helps to maintain the high quality and strength of the R100 recycled wrap. The R100 wrap is also 100% recyclable after use.

By the end of 2022, almost 80% of the shrink wrap we sourced from Reborn in Europe was recycled. Our use of R100 has saved 4,000 tonnes of virgin fossil-based plastic and avoided an estimated 8,000 tonnes of CO<sub>2</sub> emissions since 2019 as per Reborn's estimations.

flows in the Norwegian system. See an example for Imsdal [here](#).

## **SUPPORTING COLLECTION, RECYCLING AND REUSE**

Recycling of our packaging can only be successful if materials are collected systematically and there is sufficient capacity to recycle them. The more efficient the collection and recycling systems, the greater the chance of moving towards circularity at scale, where materials remain in use for further use cycles.

We support initiatives to enhance collection and recycling infrastructure around the world, and encourage the development of deposit return schemes as one of the most effective ways of getting aluminium cans, and glass and plastic bottles, back from the consumer and into the hands of recyclers. In 2022, we developed a position statement on deposit return schemes, including a call for brand owners operating a deposit return scheme to have access to a fair share of the recycled materials collected to support circularity.

Denmark's well-established deposit return scheme, through which we have a shared responsibility with stores to collect our primary packaging (such as bottles and cans) for recycling, has achieved an average return rate of 93% for packaging and 95% for plastic bottles. Similar successful deposit return schemes have been implemented in all four Nordic countries and in all three Baltic countries with Carlsberg's support – including Latvia this year (see right).

Several other countries in Europe are introducing deposit return schemes, but progress elsewhere is slower. In the meantime, we are supporting other initiatives aimed at improving collection rates.

We are also continuing to encourage people to return refillable bottles. In 2022, we washed and refilled 5.3 billion returnable glass bottles worldwide.



### **CASE STUDY**

## **DEPOSIT RETURN SCHEME LAUNCHED IN LATVIA**

On 1 February 2022, a national deposit return scheme was launched in Latvia for the first time. By the end of the year, 8,650 tonnes of packaging – around 228 million items – had been returned for reuse or recycling.

Our local Carlsberg and Aldaris brand teams, together with the Brewers' Union, have been instrumental in the development of the scheme as a founding member of the Latvian deposit packaging operators' alliance. We shared learnings from deposit return schemes already

established in Lithuania and Estonia, provided support for supply chain and logistics solutions, and were part of the working groups that created the system for the deposit return scheme that was then approved by the Latvian government.

Return rates for Aldaris refillable bottles have significantly increased from 36% in 2021 to an average of 66% in 2022 – and reached 100% in some months once it became mandatory for retailers to sell bottles with the label advertising the deposit scheme.

## ZERO PACKAGING WASTE: OUR PLANS & TARGETS

### PLANNED ACTIONS FOR 2023

Define a roadmap with specific actions to drive progress on each of our ZERO Packaging Waste targets

Launch an internal policy and associated training to support implementation of our ZERO Packaging Waste targets, including clear definitions and methodologies

Develop a packaging action plan for selected markets in Asia based on an initial analysis of what happens to our packaging after consumption

Work with suppliers to increase use of recycled material in our packaging

Work with suppliers to decrease use of virgin plastic in our packaging through weight reduction and replacement with recycled PET

### 2030 TARGETS

**100% recyclable, reusable or renewable packaging**

**90% collection and recycling rate for bottles and cans**

**50% recycled content in bottles and cans**

**50% reduction in virgin fossil-based plastic**

# ZERO Water Waste

**Without water we have no beer. Protecting water resources is essential for our business and for the communities where we operate.**

Water is not only a key ingredient in itself, it is also used for cleaning and production processes at our breweries – and to grow the hops and grains we use to make our brews.

We need enough water to keep our breweries going, and we have a responsibility to use this vital natural resource in a way that does not compromise water supplies for the communities around us – especially in regions at high risk of water scarcity. The best way to do this is to make our breweries as efficient as possible to prevent water being wasted, and to reuse water where we can.

Since 2015, we have cut the amount of water we use from 3.6 to 2.5 hectolitres (hl) for every hl of beer we produce around the world. That is a 31% reduction, beating our 25% target for 2022 and making us one of the most efficient major brewers in the world. By 2030, we aim to get this down to an industry-leading 2.0 hl/hl globally.

We are going further by targeting 1.7 hl/hl at our breweries in high-risk areas where our water use has the biggest impact, and we have already achieved a 43% reduction at these breweries since 2015. We also safeguard water supplies for local communities in high-risk areas through local partnerships and have set an ambitious new goal to replenish 100% of the water we consume in high-risk areas by 2030.



3.9.2



6.1.1, 6.2.1, 6.3.1, 6.3.2, 6.4.1, 6.4.2, 6.5.1 & 6.6.1



12.2.1, 12.2.2 & 12.6.1



13.1.1

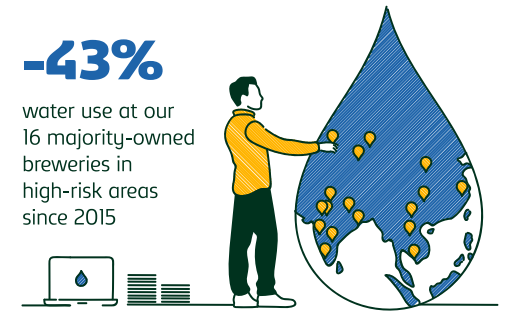
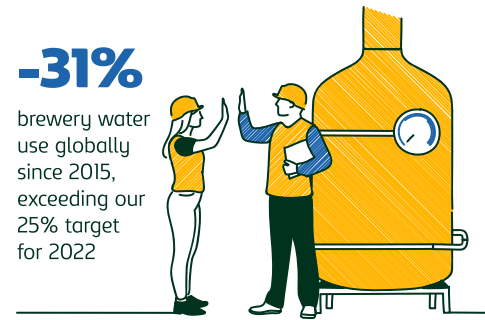


15.5.1



17.17.1

See SDG index, page 85.



- By 2030:**
- › Water usage efficiency of **2.0 hl/hl** globally and **1.7 hl/hl** at breweries in high-risk areas
  - › **100%** replenishment of water consumption at breweries in high-risk areas



# TOGETHER TOWARDS ZERO AND BEYOND IN ACTION: ZERO WATER WASTE

## TEAMWORK TARGETS WATER SAVINGS IN CHINA

Improving water efficiency does not always have to involve capital expenditure. At our Liangping brewery in China, changes in working practices have delivered excellent water savings at virtually no cost. The impressive results won the site our first annual award for the best-performing water-saving brewery in Asia in 2022.

Liangping's winning approach is all about teamwork. Brewery workers were asked to come up with ideas about where water could be saved based on their experience on the frontline of our operations.

More than 80 of their ideas have been translated into action, and workers whose suggestions led to significant water savings received rewards for their teams.

Process adjustments ranged from the relatively simple to the more complicated, from water loss elimination to water recovery and reuse. Most cost little or nothing to implement, making these water-saving solutions highly cost-efficient with strong potential to be applied at other breweries in the region.

These seemingly small changes add up to make a big difference, contributing to a 26% reduction in water use over two years and enabling the brewery to achieve a high efficiency rate of 2.0 hl of water for every hl of beer produced in 2022.

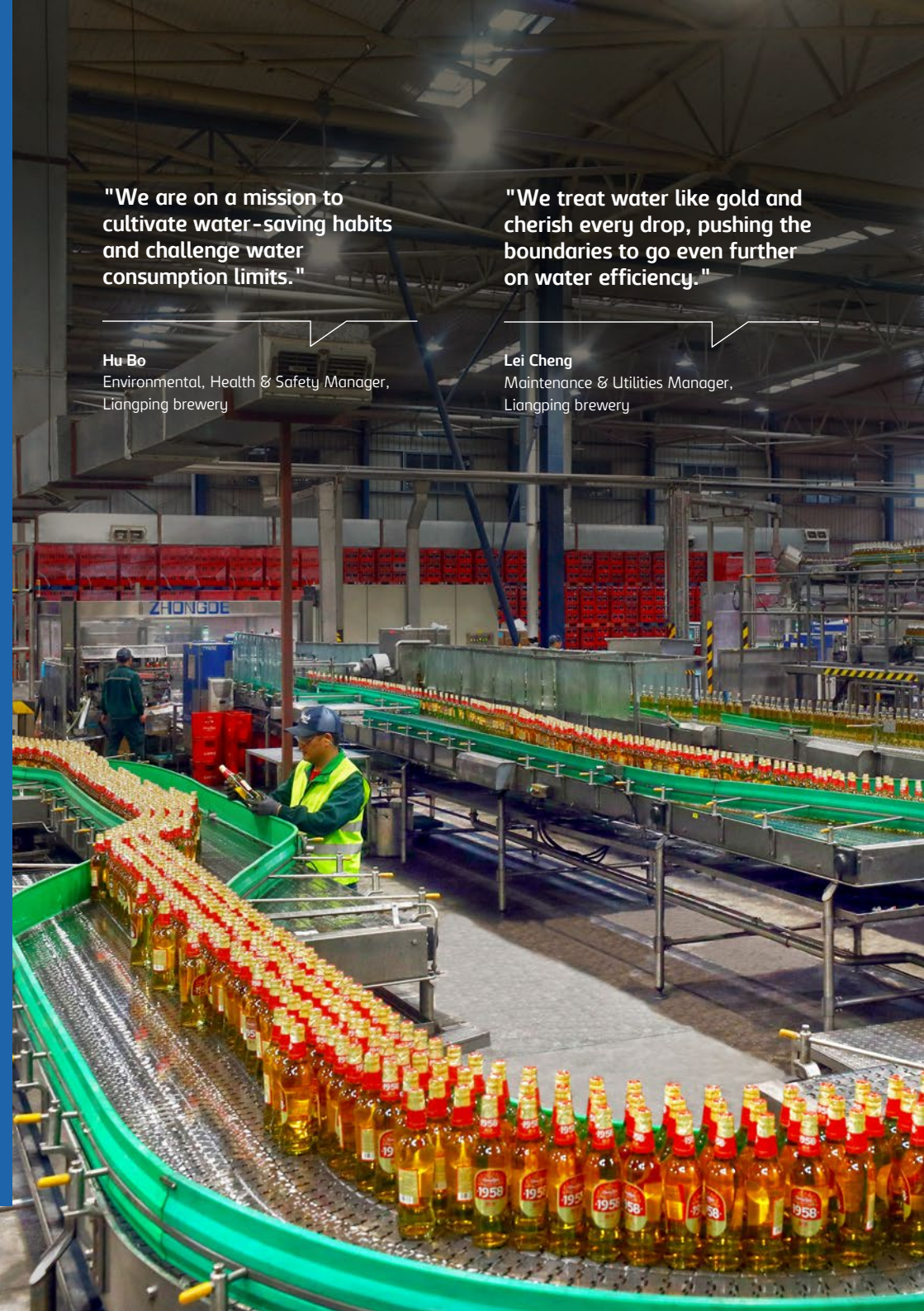
Lessons learned through this pilot at Liangping, and a similar trial at Dazhulin, will be adopted at other high-risk breweries across Asia from 2023, building on the same team ethos.

"We are on a mission to cultivate water-saving habits and challenge water consumption limits."

**Hu Bo**  
Environmental, Health & Safety Manager,  
Liangping brewery

"We treat water like gold and cherish every drop, pushing the boundaries to go even further on water efficiency."

**Lei Cheng**  
Maintenance & Utilities Manager,  
Liangping brewery



## UNDERSTANDING OUR WATER RISK

Assessing and mitigating water risk enables us to build the resilience of our business and the communities where we operate. Our latest analyses of water risks for our breweries and key crops were carried out in 2020, and we will repeat these in 2023 to further inform our efforts.

We evaluate water risk for our breweries using WWF’s Water Risk Filter evaluation tool, based on four weighted parameters.

One third of the score is allocated to water risks within a given river basin as a whole and one third to operational risks for our industry. Each of these two standard parameters is based on a holistic view of: physical risks associated with water scarcity, overabundance and quality of water, as well as degradation of related ecosystem services; regulatory risks, based on good governance in line with UN Sustainable Development Goal target 6.5 and the Organisation for Economic Co-operation and Development (OECD) water governance framework; and reputational risks related to cultural attitudes, media coverage, trust and conflict.

The final third of the score is split equally between two tailored parameters that are specific to each Carlsberg brewery: its current size, based on production volumes; and its growth projections.

Based on our latest analysis, none of our 84 majority-owned breweries have any overall operational risk from water shortages. However, 16 of them – and one associate – have been defined as high-priority sites. These high-risk breweries are located in nine different river basins across Cambodia, China, India, Laos and Nepal (see right).

We use scenario analysis to model the potential future impact of climate change and socioeconomic developments on water risk for our business. Our analysis in 2020, using WWF’s ground-breaking water scenario analysis tool, modelled scenarios in 2030 and 2050 based on current trends, as well as both optimistic and pessimistic pathways.

This showed that sites at highest water risk today are generally the same ones projected to experience the greatest increase in risk in all modelled pathways. Our three most at-risk breweries are Hyderabad in India, Lao in Laos and Sihanoukville in Cambodia. The main risks they face concern changes in water

quality, scarcity and flooding as a result of climate change.

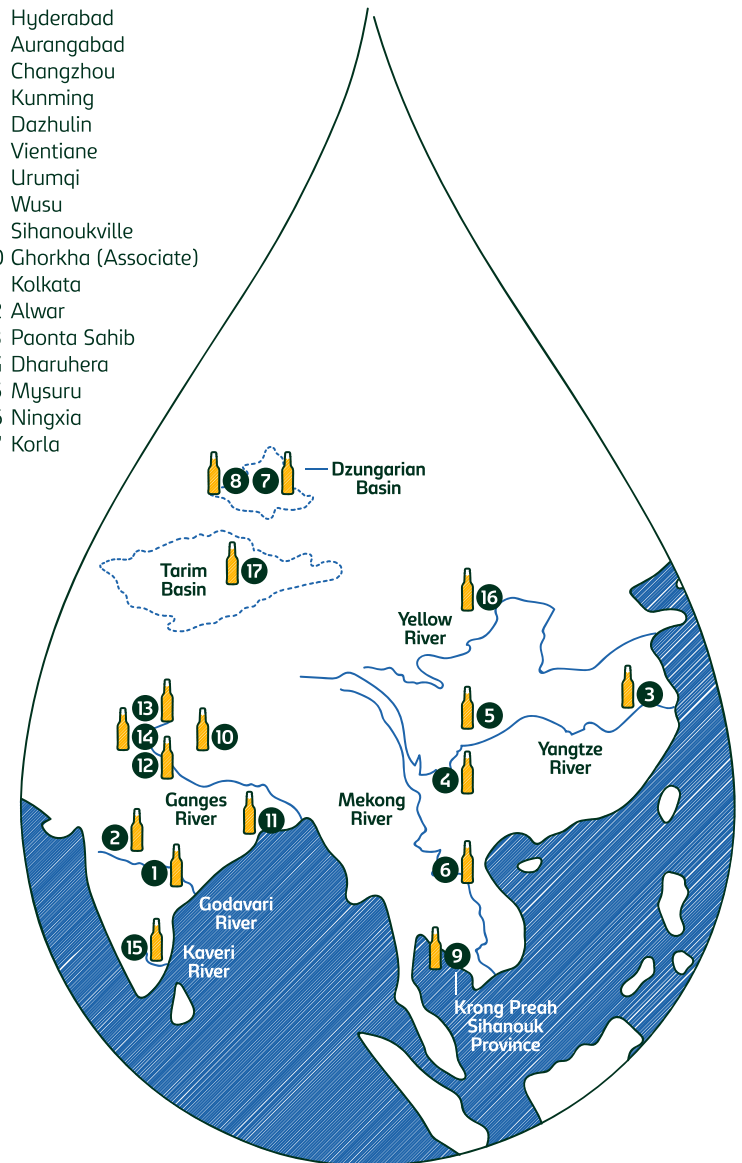
We also look beyond our breweries to assess water risk in our supply chain. We used WWF’s Water Footprint methodology to analyse water risk in the production of barley and rice – two important ingredients in our beers – based on 32 indicators, including scarcity, drought and water quality. We found that the highest risks to these crops are in China, India and Vietnam.

Our new focus on regenerative agriculture through our ZERO Farming Footprint ambition (see page 22) will help to address water risk in our agricultural supply chain and to bolster water retention by healthy soils.

Each year, we disclose our water risk management approach and performance to the CDP. We achieved an A rating in the most recent assessment.

## BREWERIES IN PRIORITY AREAS

- 1 Hyderabad
- 2 Aurangabad
- 3 Changzhou
- 4 Kunming
- 5 Dazhulin
- 6 Vientiane
- 7 Urumqi
- 8 Wusu
- 9 Sihanoukville
- 10 Ghorkha (Associate)
- 11 Kolkata
- 12 Alwar
- 13 Paonta Sahib
- 14 Dharuhera
- 15 Mysuru
- 16 Ningxia
- 17 Korla



## WHAT WE MEAN BY ZERO WATER WASTE

### BREWERIES

We aim to reduce the amount of water used to produce every hectolitre (hundred litres or hl) of our beer and beverages to an average of 2.0 hl/hl globally. This includes all majority-owned breweries, as well as soft drinks and water plants. All brewery operations are covered, including offices, production, warehousing and cogeneration.

We are also going further by targeting 1.7 hl/hl at breweries in high-risk areas, as defined by our water risk analysis using WWF's Water Risk Filter evaluation tool. This analysis identified 17 breweries in high-risk areas, all located in Asia. Of these, 16 are included within the scope of our 1.7 hl/hl target, while the other is excluded as it is an associate.

### COMMUNITIES

By 2030, we aim to replenish 100% of the water we consume at our breweries in high-risk areas. We will achieve this through partnerships that safeguard and restore shared water resources for communities in the river basins where we operate that are identified as high-risk.

Replenishment of water consumed by each brewery must be in the river basin where that brewery is located. From 2023, we will begin to assess and measure the amount of water replenished through our water partnerships using the criteria defined by the World Resources Institute's Volumetric Water Benefit Accounting standard.

## ELIMINATING BREWERY WATER WASTE

We are working hard to minimise the amount of water we need to make our beer.

Globally, we cut our water consumption per hl of beer produced by a further 6% this year, achieving a 31% reduction since 2015 and exceeding our target of 25% by 2022. The amount of water saved since 2015 is equivalent to filling 2,359 Olympic swimming pools.

Our enhanced focus on the 16 breweries we operate in high-risk areas is helping us target our efforts and investments where we can make the biggest difference to society and our business. In 2022, we cut water

use by a further 12% in high-risk areas through a strong focus on process and investments in equipment upgrades and new water recycling plants. Together, our 16 breweries in high-risk areas have improved water efficiency with a 43% reduction since 2015, significantly outperforming our global average.

In 2022, our breweries worldwide used an average of 2.5 hl of water to produce 1 hl of beer – with an even better performance of 2.3 hl/hl across our breweries in high-risk areas. Three of our breweries in high-risk areas – Changzhou and Dazhulin in China, and Sihanoukville in Cambodia – reached a major milestone by reducing their water use to 2.0 hl/hl or less in 2022.

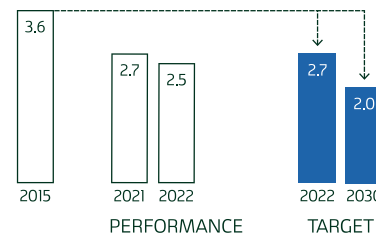
We are now going further by targeting a very high level of

efficiency (2.0 hl/hl) across our global operations by 2030 and an even higher efficiency (1.7 hl/hl) at high-risk sites.

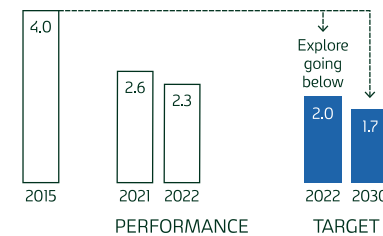
To incentivise progress, most brewery directors have water efficiency targets linked to their remuneration. We have also introduced annual rewards for the best-performing water-saving sites in Asia, where all our high-risk breweries are located.

Overall, our total water use decreased by 3% versus 2021, equal to 0.7 million m<sup>3</sup>. Breweries in high-risk areas used a total of 5.3 million m<sup>3</sup> in 2022, a 7% decrease from 2021.

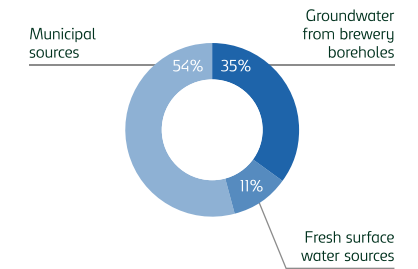
**RELATIVE BREWERY WATER USE: ALL SITES**  
(hl/hl)\*\*



**RELATIVE BREWERY WATER USE: HIGH-RISK SITES**  
(hl/hl)\*



**SOURCES OF WATER USE**



\* Data for 2015 and 2021 restated to exclude Russia.

\*\* 2022 data within PwC's assurance scope. See previous ESG and sustainability reports for assurance of data published in prior years.

## USING WATER MORE EFFICIENTLY

To improve water efficiency at our breweries, our first priority is to reduce water use through more efficient processes and equipment. For example:

- Our team at the Liangping brewery in China is leading the way by piloting water-saving process changes suggested by frontline workers in 2022 (see page 37).
- Installation of more efficient equipment as part of the relocation of a beer packaging line from Italy to Croatia improved the site water efficiency by 5% versus 2021.
- Our Dazhulin and Yibin breweries in China have begun collecting water from bottle washing, filtering it and reusing it in other processes without the need for a treatment plant.

Where we cannot reduce water use to the level we want, we invest in plants to recycle more of the water we use to reduce overall consumption. We now have water recycling plants in operation at ten of our breweries worldwide, including our state-of-the-art plant at the Fredericia brewery in Denmark.



## CASE STUDY

# PROTECTING SWISS WATERS

Our Swiss beer brand Feldschlösschen is committed to the renaturation, purification and protection of the lakes and rivers that play a vital role in Switzerland's ecosystems and beautiful landscape. In 2022, the brand launched a three-year campaign to encourage people across the country to care for Swiss waters and do their part by getting involved in local clean-up events.

Feldschlösschen kicked off the *Together for Healthy Swiss Waters* campaign with a donation of half a million Swiss francs (DKK 3.8m) and raised awareness through media coverage and attention-grabbing promotions

in retail stores launched on World Water Day in April 2022.

In the first year of the campaign, specific stretches of watercourses have been identified for renaturation and revitalisation working with local partners. Together with NGO partner IGSU, Feldschlösschen held a series of river clean-up days that brought together volunteers to clear litter from river banks in the cities of Basel, Bern and Zürich. The brand also sponsored divers to collect underwater waste on World Clean Up Day in September 2022, together with the environmental organisation Abfalltaucher.

**"Feldschlösschen and IG saubere Umwelt, IGSU, share the same values: we care about a clean environment and are actively committed to achieving it. For this reason, in the summer of 2022 we jointly cleared riverbanks in Bern, Basel and Zürich of litter, thus setting an example against littering."**

**Nora Steimer**  
Managing Director, IGSU, Interest Group for a Clean Environment in Switzerland



In its second year of operation, our Fredericia brewery's water recycling plant has radically improved water efficiency by recycling 90% of all process water and achieving 1.4 hl/hl for all beer production at some instances in the year. Beyond the efficiency gains, the plant is also reducing the brewery's energy consumption through biogas production and recirculation of hot water.

With these industry-leading results, the Fredericia plant won the Global Water Awards 2022 as the Industrial Project of the Year and has attracted a wide range of stakeholders – from European politicians to engineers and directors – for site visits. We engaged these various stakeholders together with State of Green and the International Water Alliance to share solutions and learnings, so that we can realise the technology's full potential across more sites - within and beyond our industry.

In 2022, we invested in new wastewater recycling plants in high-risk areas at our Korla, Ningxia, Urumqi and Wusu breweries in China. We also installed new water treatment plants at two breweries in Laos and Switzerland.

We will explore opportunities to install water recycling plants at further high-risk sites, as well as at

sites that deal with returnable glass bottles where savings from treating water used for bottle-washing could be significant.

## PARTNERING TO PROTECT THE WATER WE SHARE

Every region experiences issues with water scarcity and quality in different ways.

We partner with local people and organisations to help us understand local contexts and address the risks in a way that safeguards precious water resources (see right).

By the end of 2022, we had community partnerships in place in two of the nine high-risk river basins where we have breweries, including:

- **Cambodia:** We agreed a new partnership with a social enterprise that provides safe and affordable water to underserved rural communities, to supply clean water to 10,000 people in a remote part of Pursat Province.
- **India:** We continued to provide clean water, toilets and handwashing facilities at two schools, one in Mysuru and the other in Alwar, in year two of our five-year WASH (Water Sanitation

and Hygiene) programme with Desolenator and EcoSoftt. Due to challenges in obtaining new construction permits, on the recommendation of our local implementation partners we are now seeking an alternative location for our planned solar thermal water purification project with Desolenator.

While we prioritise action on water in high-risk areas, this issue also resonates in other regions. Some of our brands around the world choose to support water partnerships as part of their community engagement activities, such as Feldschlösschen's campaign to clean up watercourses in Switzerland (see page 40).

In Vietnam, our Huda brand launched a "Fresh Water

Ambassador" social media campaign to share tips on saving water (see page 73), and continued to extend its support for communities through five new projects that focus on securing and stabilising water sources. With an additional 1,200 households and 5,000 people served in 2022, its projects now provide around 30,000 people with access to clean water.

## IMPLEMENTING EFFECTIVE LOCAL PARTNERSHIPS









We aim to invest in projects that maximise positive impact for communities and deliver measurable results. Making this happen can be challenging, and progress is often slower than we would like.

Our experience to date shows that local management is key to ensuring community buy-in and effective implementation of projects on the ground. But it takes time to identify local partners with the right expertise and experience in the high-risk areas we are targeting. We often work with global NGOs, such as WWF, to provide direction and connect us with the right local partners.

Obtaining the relevant permissions from local authorities, particularly for projects involving installation of new technologies or water supply infrastructure, can also cause significant delays or even derail planned projects completely.

Crucially, the projects we choose must make a tangible difference to water sources and communities, and this can be hard to quantify. From 2023, we will use the World Resources Institute's Volumetric Water Benefit Accounting standard to help us measure the impact of our water partnerships and track progress towards our 2030 ambition to replenish 100% of the water we consume in high-risk areas.

# ZERO WATER WASTE: OUR PROGRESS & TARGETS

PLANNED ACTIONS FOR 2022	STATUS	PROGRESS IN 2022	2022 TARGETS	STATUS	PLANNED ACTIONS FOR 2023	2030 TARGETS
Continue best-practice efficiency improvements and investments in more efficient water treatment and bottle washers		Continued to implement efficiency measures and equipment upgrades, with a specific focus on Asia, where all our high-risk breweries are located	<b>25% reduction in water usage at our breweries</b>	 <b>Achieved (-31% at all sites and -43% at high-risk sites)</b>	Continue efficiency improvements with existing equipment through application of best practices and inclusive problem-solving	<b>Water usage efficiency of 2.0 hl/hl globally and 1.7 hl/hl at breweries in high-risk areas</b>
Roll out water recycling treatment plants at breweries in high-risk areas		Installed four water recycling treatment plants at breweries in high-risk areas in Asia	<b>Explore going below 2.0 hl/hl at all high-risk breweries</b>	 <b>Achieved (3 high-risk breweries at 2.0 hl/hl or less)</b>		
Continue implementation of water community projects in high-risk areas		Continued implementation of water stewardship projects in India, and agreed a new partnership in Cambodia	<b>Partner to safeguard shared water resources in high-risk areas</b>	 <b>Achieved (partnerships in 2 of our 9 high-risk river basins)</b>		
				Update our global water risk assessments		

 Fully achieved
  Partially achieved
  Not achieved

# ZERO Irresponsible Drinking

**We are working to expand consumer choice, support moderation and encourage responsible drinking.**

Consumers everywhere are embracing healthy, balanced lifestyles – and this is increasingly reflected in their drinking choices.

Beer and cider are already relatively low in alcohol content compared with wine and spirits – and we are increasing the appeal, variety and availability of our no- and low-alcohol brews. By expanding choice for consumers, we will further differentiate our products in ways that are good for society and our business.

Our Together Towards ZERO and Beyond programme includes an ambitious new goal for 35% of all the brews we sell to contain no more than 3.5% alcohol by volume (ABV) by 2030.

We also continue to encourage consumers to enjoy all our products responsibly. Alcohol misuse – including drinking underage, while driving or to excess – remains a global public health concern. We are tackling this challenge head-on through our own actions and partnerships, adjusting our approach to the varying drinking

cultures and attitudes to alcohol in each market.

As a responsible brewer, we want to create a positive beer culture in each of our markets by giving consumers healthier options and the information to make responsible choices. Countering underage drinking – alcohol consumption by people under the legal drinking age – is a global priority and we are continuing our work to put age-restriction symbols on all our products.

Our ZERO Irresponsible Drinking ambition supports the UN and World Health Organization goal to reduce harmful alcohol consumption. It also helps to protect our reputation and licence to operate – and drives business growth as we tap into consumer demand for no- and low-alcohol brews.



3.5.2 & 3.6.1



12.6.1

See SDG index, page 85.

**26%**

of our brews sold globally are 0.0% to 3.5% ABV, and we are targeting 35% by 2030



**98%**

of our primary packaging globally includes ingredient information to help inform consumer choices



**90%**

of our markets now offer alcohol-free brews and we have extended our target to reach 100% from 2022 to 2030



**15+ million**

people reached through 123 responsible drinking campaigns across our markets



**40%**

of our product packaging now includes age-restriction labels, on our way towards our industry commitment of 100% by the end of 2024



**94%**

of Carlsberg Group companies implemented responsible drinking initiatives in 2022



**By 2030:**

- › **100%** responsible drinking messaging through packaging and brand activations
- › **100%** of our markets run partnerships to support responsible consumption
- › **100%** availability of alcohol-free brews
- › **35%** of our brews globally are low-alcohol or alcohol-free



# TOGETHER TOWARDS ZERO AND BEYOND IN ACTION: ZERO IRRESPONSIBLE DRINKING

## UNDERWATER BAR HIGHLIGHTS PERILS OF DRINKING AT SEA

Carlsberg's advertising is known for its creativity and wit. In 2022, we used those trademarks to highlight a serious problem in Sweden: the risks of drinking at sea during the summer boating season.

Interest in boating has soared during the COVID-19 pandemic. But drinking while boating is too common, and the consequences can be fatal. Between 2011 and 2019, 230 people died in recreational boat accidents in Sweden – and over half had alcohol in their blood.<sup>1</sup>

Carlsberg Sverige set out to raise awareness of this challenge and present our alcohol-free beer as a solution. The result was a campaign that reached over 35 million people with the message: "Don't drink and boat. Stay sober and float."

The innovative approach combined advertising with an underwater bar reachable by diving. Located just off the pier in the summer hotspot of Smögen, the bar offered tourists the chance to sip a non-alcoholic beer on the seafloor, under the guidance of the local diving club.

The fully equipped bar included a counter, stools, beer cooler and taps, and a selection of Carlsberg Sverige's tasty alcohol-free brews.

[▶ Watch Carlsberg's campaign video here.](#)

"We think that Carlsberg Sverige's underwater bar was a fantastic initiative that will hopefully make more people choose alcohol-free alternatives at sea."

Samuel Löfgren  
Gösta's Fish Restaurant in Smögen

"As a leading brewery and distributor of alcoholic beverages, we have a responsibility for how our beverages are consumed. Our ambition with the underwater bar was that it would be an important reminder to abstain from alcohol at sea and choose an alcohol-free alternative instead."

Henric Byström  
Director, Corporate Affairs, Carlsberg Sverige



<sup>1</sup> Svenska Transportstyrelsen (Swedish Transport Agency).

## EXPANDING CHOICE WITH NO- AND LOW-ALCOHOL BREWS

Drinking habits are changing as people increasingly prioritise health and wellness in the wake of the COVID-19 pandemic. Many consumers now seek quality over quantity, with almost four in ten (38%) saying they enjoy alcohol in moderation<sup>2</sup>.

With our history of offering great-tasting beers and our early investment in alcohol-free brews (AFBs), Carlsberg is well placed to serve this demand.

All our global brands already offer at least one 0.0% beer, and we are well on the way to our target of offering AFBs in 100% of our markets by 2030 – reaching 90% in 2022, and nearly doubling AFB sales volume since 2015 (+94%). With their lighter alcohol content (3.5% ABV or less), our low-alcohol brew (LAB) offerings are also gaining popularity.

Our expanded focus on AFBs and LABs supports public health as well as business growth. Low-ABV products are associated with better health outcomes among populations, and nudging consumers towards such products can reduce harmful use of alcohol. The World Health Organization has called on businesses to substitute higher-

alcohol products with no- or low-alcohol products in support of its target to reduce harmful alcohol consumption by 20%<sup>3</sup>. In some regions, the role of no- and low-alcohol brews in supporting healthier societies is being reinforced by regulations, including new guidance from the European Union that allows member countries to exempt beers below 3.5% ABV from tax.

Accelerating our no- and low-alcohol offerings is central to both our new SAIL'27 business strategy and our enhanced Together Towards ZERO and Beyond programme. For the first time, we have set a goal that combines AFBs and LABs, aiming to reach a 35% share of the

### No- and low-alcohol brews in 2022:

# 3.3M HL

GLOBAL AFB SALES VOLUME (BEER AND CIDER)

# 42

MARKETS WITH AFB OFFERINGS THROUGH EXPORT AND LICENSING AGREEMENTS

# 26%

SHARE OF NO- AND LOW-ALCOHOL BREWS IN OUR GLOBAL PORTFOLIO

# 32

NEW AFB PRODUCT LAUNCHES ACROSS MARKETS

# +94%

GLOBAL AFB SALES VOLUME SINCE 2015

LARGEST SHARE OF AFB MARKET IN WESTERN EUROPE AND CENTRAL & EASTERN EUROPE

## WHAT WE MEAN BY ZERO IRRESPONSIBLE DRINKING

### NO- AND LOW-ALCOHOL BREWS

Our 2030 targets expand our focus on offering consumers responsible drinking choices. We have extended our 2022 target to offer alcohol-free brews (AFBs) in 100% of the markets where we sell beer. We have also introduced a new target for 35% of our brews (beer, cider, kvas and malt-based beverages) globally to be low-alcohol (LABs) or no-alcohol (AFBs) by 2030. We define AFBs as 0.0-0.5% alcohol by volume (ABV) and LABs as 0.6-3.5% ABV.

### ON-PACK MESSAGING

Together with others in the industry, we have committed to include responsible drinking messages related to age restrictions on 100% of primary packaging for all our alcoholic products and alcohol-free extensions by the end of 2024. Our 2030 Together Towards ZERO and Beyond target will ensure this is maintained as our global product portfolio evolves.

### LOCAL PARTNERSHIPS

Due to delays in progress, partly caused by the COVID-19 pandemic, we have extended our 2022 target to run partnerships in every market to support responsible consumption to 2030. We have discontinued the 2030 target for each market to improve responsible drinking year on year as our other 2030 targets will drive progress in this area, making the separate target superfluous.



<sup>2</sup> GlobalData, 2021 Q2 global consumer survey.

<sup>3</sup> Political declaration of the third high-level meeting of the General Assembly on the prevention and control of non-communicable diseases (who.int).

brews we sell by 2030. In 2022, the share was already 26%.

### BRANDS LEADING THE WAY

Our brands around the world help people celebrate responsibly, embrace moderation and enjoy a fuller, more balanced lifestyle. We plan to continue expanding our no- and low-alcohol offerings based on consumer insights and local cultures.

We already offer AFBs across all our Western Europe and Central & Eastern Europe markets, half of our Asia markets and nearly half of our Carlsberg Export & License markets. From early 2023, all our global brands will offer at least two premium alcohol-free options, and some will offer as many as five. While AFBs have been slower to take off in Asia, our LABs are very popular in the region, including the 3.2% ABV Carlsberg Light brewed specially for the Chinese market.

In 2022, many of our brands successfully introduced or relaunched no- or low-alcohol brews. These included the launch of Alivaria's first alcohol-free variant in Belarus, the relaunch of Carlsberg's 0.0 brew – our first ever AFB, now available in 29 markets – and the expansion of Somersby's zero-alcohol cider fruit variants into new markets such as Malaysia. LAB launches this year included St. Pauli's popular Astra

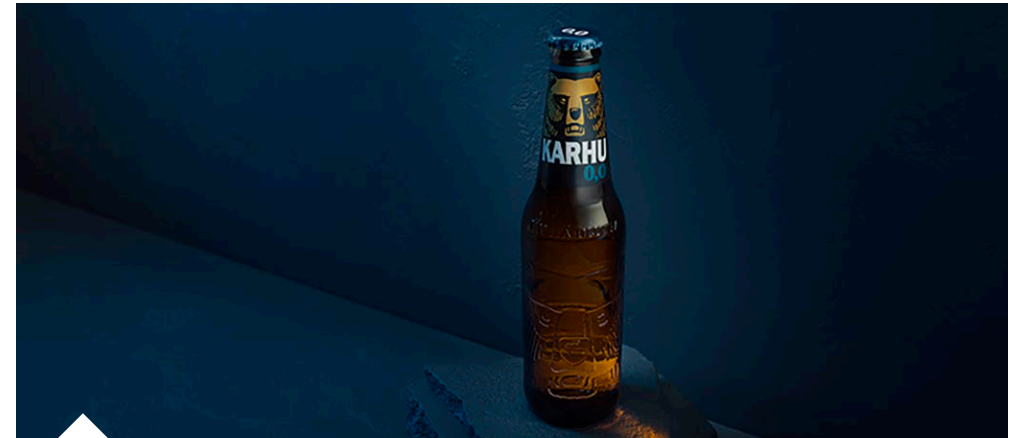
Kiezmische LAB fruit mix in Germany and KOFF Light in Finland.

In 2022, 85% of Carlsberg companies had a portfolio-leading brand (#1 or #2) with a responsible drinking tagline to encourage responsible choices. Several brands and markets also launched innovative, high-profile campaigns to promote our AFBs and LABs in 2022, including:

- **Carlsberg Polska** reached 1 million people in Poland with its “Free Feels Good” messaging and AFB samples in stores and cinemas.
- **Karhu** used deadpan Finnish humour to support people's right to choose alcohol-free brews (see right).
- **Tourtel** gained 350 million contacts through various consumer touchpoints for its popular 0.0% Tourtel Twist as an official supplier to the Tour de France cycle race.
- **In Germany**, we handed out almost 100,000 AFB samples at beaches and other leisure locations.

## INFORMING AND EMPOWERING CONSUMERS

Drinking responsibly or in moderation is a personal choice. We make these choices easier by making no- and low-alcohol brews that are



### CASE STUDY

## SUPPORTING CONSUMERS' ALCOHOL-FREE CHOICES IN FINLAND

Our Sinebrychoff Karhu brand in Finland ran a high-profile advertising campaign this year to support consumers' choice to act responsibly and enjoy alcohol-free brews. It led with the message: “Don't ask stupid questions. It's Karhu.”

The campaign called out derogatory behaviour and encouraged consumers to embrace AFBs as a positive choice – in response to a survey by Karhu that found 43% of AFB drinkers felt pressured within their social circles to choose an alcoholic option.

Using deadpan Finnish humour, the advertising campaign attracted widespread media attention, engaged consumers in conversation and heightened visibility of Karhu's signature 0.0 variant.

Sinebrychoff offers 12 alcohol-free brews in Finland, including Karhu 0.0. Sales of these collectively grew by 7% in 2022, leading the category in the Finnish market.

▶ [Watch Karhu's campaign video here.](#)

great-tasting and widely available, and by giving people the information they need about our products. We reached our original 2022 target to include symbols related to age restrictions, drinking while driving or drinking while pregnant on 100% of our product packaging two years early in 2020. We have since tightened the focus of this target specifically on age-restriction labels to tackle underage drinking – a global challenge that we are working with industry peers to address.

Some markets where we sell beer require age-restriction symbols, but we are going beyond compliance. As members of the International Alliance for Responsible Drinking (IARD), we have committed to include these symbols on all our alcoholic products and alcohol-free extensions by the end of 2024 – and

we will maintain this as one of our 2030 ZERO Irresponsible Drinking targets. We included age-restriction labels on 40% of our products in 2022 (compared to 41% in 2021).

Health-conscious consumers also want clear information on what they are drinking, with 76% of global consumers actively trying to reduce their sugar consumption or consuming in moderation<sup>4</sup>.

Almost all our product labels contain clear information on ingredients (see table below). We also provide nutritional information, including calorie counts, as well as ingredient information, covering 60% and 98% of our global fermented volume respectively. On both these labelling dimensions, we have reached 96% coverage in EU markets.

**RESPONSIBLE DRINKING AND MARKETING COMMUNICATIONS\***

Performance	2015*	2021*	2022
% of Carlsberg companies implementing responsible drinking initiatives	77%	68%	94%
Number of responsible drinking campaigns	234	80	123
% of fermented produced volume listing ingredient information*	N/A	98%	98%
% of fermented produced volume listing nutritional information*	N/A	58%	60%
% of fermented produced volume carrying legal age-restriction symbol or equivalent text*	N/A	41%	40%

\* Data for 2015 and 2021 restated to exclude Russia.  
 \*2022 data within PwC's assurance scope. See previous ESG and sustainability reports for assurance of data published in prior years.

**REACHING THE RIGHT PEOPLE WITH OUR MARKETING**

We employ strict controls to make sure our advertising is only seen by those we intend to reach. Our Marketing Communication Policy lays out global ground rules for advertising, promotions and communication with a focus on appealing to, and reaching, adult audiences only. It applies to our own teams as well as our advertising, communication and retail agency partners.

In 2022, our markets achieved 74% compliance with the IARD's Digital Guiding Principles for online platforms and social media (down from 91% in 2021). In the few cases where we find problems, we work with local marketing teams to fix them quickly.

We adhere to global standards, led by the IARD and the World Federation of Advertisers (WFA), to prevent minors from seeing our alcohol-related ads online. This year, we conducted a social media audit to ensure all our channels complied with these standards. We also worked with Facebook, SnapChat, TikTok and YouTube on controls, such as age screening, that deter minors from seeing our advertising on their platforms.

**EXTENDING NO- AND LOW-ALCOHOL CHOICES IN BARS AND RESTAURANTS**



We reach consumers through both off-trade outlets, such as supermarkets and online platforms, and on-trade outlets, such as bars, restaurants and nightclubs. Across our European markets, our AFBs and LABs are already widely available in off-trade outlets, but less so in the on-trade.

To expand choice for consumers, we want to make our no- and low-alcohol brews widely available in both kinds of outlets. In 2023, we will develop further tools and strategies to help our markets get their AFBs and LABs into more bars and restaurants. These will include broad principles and specific guidelines by type of outlet, building on learnings from Sweden where we have already made good progress.

**ENCOURAGING RESPONSIBLE BEHAVIOUR**

Our brands work with local partners, including government agencies, NGOs and ride-sharing companies, to encourage responsible behaviour and raise awareness of the dangers of alcohol misuse.

In 2022, we had local partnerships in 67% of our markets. Our progress was slowed by the COVID-19 pandemic, and we now aim to reach all our markets by 2030. In 2023,

we will provide more direction to markets that do not yet have partnerships, including a toolkit on elements to include in a public campaign and what kinds of partner to engage to maximise impact.

These partnerships, along with our responsible drinking messaging on packaging and efforts to increase sales of AFBs and LABs, will support improvements in responsible drinking in our markets year on year, so we have discontinued the separate target on this.

<sup>4</sup> GlobalData, 2021 Q2 global consumer survey.

Our markets ran 123 responsible drinking campaigns in 2022, including on Global Beer Responsibility Day which we celebrate every September. Together, these reached more than 15 million people. The growing visibility and popularity of our no- and low-alcohol brews also boost our efforts to positively influence consumer behaviour.

Some of the most impactful partnerships and corporate or brand campaigns we ran during the year included:

- **Belarus:** To celebrate Alivaria's first alcohol-free variant, we set up a dry pool in Minsk and asked passers-by to take an "aquatest" on responsible behaviour on the water, rewarding those who passed with a catamaran trip. The campaign achieved 1.1 million consumer contacts across various channels, including digital and social media.
- **Finland:** Our Karhu brand piloted a new kind of wristband developed at the country's Solstice Festival, offering people an easy way to check if they are fit to drive. The "lickalyzer", developed with a Finnish biotech company, contained a built-in alcohol meter that allowed festival-goers to monitor their blood alcohol levels to help them decide when to opt for an AFB.

- **France:** Kronenbourg provided water-filled beer taps at five summer festivals, attended by 967,000 festival-goers, accompanied by messaging to stay hydrated and consume beer responsibly.
- **Malaysia:** Our 8th annual #CelebrateResponsibly campaign recruited 25 employee ambassadors to spread the word at music festivals that Carlsberg sponsors in Genting, Kuching and Miri. They educated party-goers on the local legal blood alcohol content limit for driving (0.05%), helped them test their blood alcohol levels with contactless breathalysers and gathered over 1,200 pledges not to drink and drive.
- **Poland:** Our annual "I Think Soberly" campaign focused on drink driving this year (see right).

#### ENABLING COLLEAGUES TO DRIVE SAFELY

We encourage our own people to set the tone by drinking responsibly. In European markets, we fit alcolocks in our company cars to prevent employees from driving when over the legal blood alcohol limit. In 2022, these were fitted to 60% of our fleet in Western Europe and 62% in Central & Eastern Europe.



#### CASE STUDY

## PROMOTING SOBER DRIVING IN POLAND

In Poland, we have teamed up with experts and celebrities to run the public education campaign "Trzeźwo Myślę" – "I Think Soberly" – for the past six years. In 2022, our focus was on thinking soberly as the driver behind the wheel and as a passenger.

In our survey of over 1,000 consumers, 15% admitted to driving when they were unsure if they were sober, and 13% said they had given "silent permission" to ride with a driver who was under the influence.







To grab the public's attention, we enlisted one of Poland's best-known driving instructors to make videos inside cars with campaign ambassadors, including an actress, a paramedic and a road safety expert. In amusing cameos, they explored serious topics, including drinking myths and practical advice to avoid drinking and driving.

The campaign, run together with the NGO Partnership for Road Safety and Warsaw's Provincial Road Traffic Centre, was also featured on subway monitors and reached around 6 million people.

➤ [See the campaign website and watch the videos here.](#)



## ZERO IRRESPONSIBLE DRINKING: OUR PROGRESS & TARGETS

PLANNED ACTIONS FOR 2022	STATUS	PROGRESS IN 2022	2022 TARGETS	STATUS	PLANNED ACTIONS FOR 2023	2030 TARGETS <sup>5</sup>
Develop consumer campaigns to support AFB expansion, particularly in Asia		Launched new AFBs and ran campaigns to support AFB expansion in several markets, as well as working to develop a roadmap to expand AFB penetration in Asia based on in-depth analysis of alcohol use, attitudes and health and wellness drivers in numerous countries	100% availability of alcohol-free brews (AFBs) <sup>6</sup>	 Partially achieved (90%)	<p>Continue to commercialise our AFB expansion plans across our regions – with product innovations based on local consumer insights – including launches in India</p> <p>Define LAB opportunities for Carlsberg based on in-depth consumer insights, and work with lead markets on concepts tailored to local cultures</p> <p>Further embed our Marketing Communication Policy among our commercial teams and agency partners</p>	<p>35% of our brews globally are low-alcohol or alcohol-free</p> <p>100% availability of alcohol-free brews</p>
Continue to roll out age symbol labels on our alcohol brands and their alcohol-free extensions		Reached 40% implementation of legal age symbols on our product packaging (compared with 41% in 2021)	100% responsible drinking (RD) messaging through packaging and brand activations	 Partially achieved <sup>7</sup> (labelling: 98% with ingredients, 60% with nutrition, 40% with age restriction; 85% of companies with #1 or #2 brands with RD taglines)	<p>Continue to roll out age symbol labels on our alcohol brands and their alcohol-free extensions, to be completed by the end of 2024</p> <p>Prepare and launch a new Global Labelling Policy for all alcoholic and alcohol-free beers, ciders, hard seltzers and other beverages</p>	100% responsible drinking messaging through packaging and brand activations
Expand responsible drinking partnerships across our markets		Ran responsible drinking partnerships in several markets, including in celebration of Global Beer Responsibility Day	100% of our markets run partnerships to support responsible consumption	 Partially achieved (67%)	<p>Develop a toolkit and roadmap for markets to help them launch effective local responsible drinking partnerships</p> <p>Develop ESG training for all Carlsberg employees on our responsible drinking strategy ready to be rolled out in 2024</p>	100% of our markets run partnerships to support responsible consumption



<sup>5</sup> The previous target for 100% of our markets to improve on responsible drinking year on year by 2030 has been discontinued, as it is now superfluous with the other targets that have been set for 2030 that will drive progress in this area.

<sup>6</sup> 100% availability means Carlsberg will ensure all customers and partners in all our operating markets will have access to our AFB portfolio, wherever Carlsberg brands are sold.

<sup>7</sup> We reached our original 2022 target to include responsible drinking messaging – related to age restrictions, drinking while driving or drinking while pregnant – on 100% of our primary packaging two years early in 2020. We then tightened the focus of this target specifically on age-restriction labels to tackle underage drinking in line with our industry commitment to include legal age symbols on all our primary packaging by the end of 2024.

# ZERO Accidents Culture

**Safety is always our first priority. Any injury is one too many as we drive progress towards ZERO accidents.**

Keeping our employees – and everyone who works with us – safe is a prerequisite for doing business. Knowing that we prioritise their health and safety also helps our people feel that they are a valued part of a winning team. Rigorous safety standards apply across our operations. These are reinforced by our Life Saving Rules, which set out safe working practices in breweries, warehouses and offices, and on the road.

Safe behaviour is central to a ZERO Accidents Culture. Managers, employees, contractors and temporary workers are all expected to take care of their own safety, and the safety of those around them. We provide clear guidance and training to empower people to work safely, and to spot, report and take action to prevent unsafe behaviours.

We are working hard to create a safe environment by making improvements each year on a steady course towards ZERO accidents. We have cut our lost-time accident rate by 37% since 2015. But changing behaviour takes time and we still have work to do in embedding our ZERO

Accidents Culture at the breweries we acquired in 2020.

Our global safety performance improved year on year in 2022 and we achieved a significant reduction in accidents related to high-hazard activities targeted by our Life Saving Rules.

To further strengthen oversight at Executive Committee level, our Vice President of Integrated Supply Chain took on overall responsibility as head of the Health and Safety Council in 2022.



8.8.1



12.6.1

See SDG index, page 85.

**-37%**

lost-time accident rate from 2015 – and -7% from 2021, meeting our year-on-year reduction target for 2022



**-41%**

total lost-time accidents from 2015 – and -9% from 2021 – on the way to our target of ZERO by 2030



**-89%**

motorcycle and scooter accidents in Asia compared with 2021



**365,000**

observations on safety risks and unsafe behaviours made by our employees



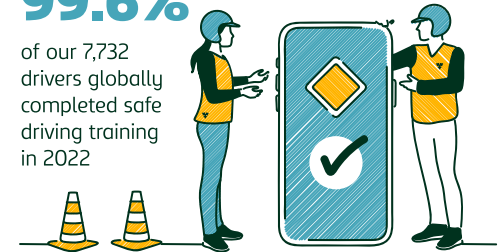
**30**

breweries achieved 1,000 consecutive days without a lost-time accident



**99.6%**

of our 7,732 drivers globally completed safe driving training in 2022



**By 2030:**

- › **ZERO** lost-time accidents
- › A **year-on-year reduction** in the accident rate



# TOGETHER TOWARDS ZERO AND BEYOND IN ACTION: ZERO ACCIDENTS CULTURE

## EMPOWERING DRIVERS TO SPOT AND CHANGE UNSAFE BEHAVIOURS

Road safety remains one of our biggest risks. Driving 25,000 miles a year on business is the third most dangerous work-related activity that anyone can be involved in.<sup>1</sup>

We train all our drivers on road safety. With an estimated 94%<sup>2</sup> of traffic collisions caused by human error, we are now going a step further to help our people adopt safe behaviours through an easy-to-use app called Brightmile.

Our drivers simply download Brightmile onto their smartphone to get regular reports on how well they are performing. Its dashboard monitors factors such as how often drivers exceed speed limits, accelerate sharply or cross junctions too fast, and if they go too long without a break.

The idea is not to keep a disapproving eye on drivers – managers do not see reports of driver locations or individual trips – but to help draw drivers' own attention to risky behaviours they may not even be aware of. We are also using the app to incentivise safe behaviour by enabling drivers to earn points that can be exchanged for prizes and awarding bonuses to the safest drivers.

In Malaysia, where we have rolled out Brightmile to all our drivers, risky behaviour has already declined by 24% and speeding by 28%, contributing to a significant reduction in accidents.

By the end of 2022, more than 1,600 Carlsberg drivers were using Brightmile in Malaysia, Cambodia, Hong Kong SAR and Vietnam. Together, they have already logged over 2.7 million kilometres of driving on the app. We plan to extend the use of Brightmile or similar apps to our drivers in more markets in 2023.

"Carlsberg has implemented one of the most innovative and driver-friendly safety and sustainability programmes across four Asian markets in 2022 – with more to follow soon. We've been using positive reinforcement, gamification and rewards to encourage driver behaviour change. The results speak for themselves with significant reductions in risky driving behaviours."

Adam Hawes  
Co-founder, Brightmile

"The five pillars of the Brightmile app – risk, speeding, distraction, fatigue and eco – have helped me to pay more attention to road conditions and every potential risky situation that arises. With Brightmile, I now take the speed limit at various places like schools, housing areas and highways with serious caution to avoid unfortunate accidents."

Beh Ee Song  
Carl's Shop Project Executive, Carlsberg Malaysia



<sup>1</sup> Royal Society for the Prevention of Accidents (UK).  
<sup>2</sup> National Highway Traffic Safety Administration (USA).

## PROGRESS TOWARDS ZERO ACCIDENTS

In 2022, we met our target to reduce the lost-time accident rate among employees year on year, achieving a reduction of 7% from 2021 and 37% from 2015. Our employee lost-time accident rate was 4.8 in 2022. The total number of accidents among employees and contractors also decreased by 11% to 177.

Training and awareness campaigns to reinforce the importance of our Life Saving Rules, together with a continued focus on driver safety, have contributed to improvements in our overall safety performance. Compared with 2021, we had 51% fewer accidents related to risks

covered by the Life Saving Rules and 56% fewer traffic accidents – including 89% fewer involving motorcycles or scooters in Asia. All incidents stemming from traffic risks, lock out and tag out procedures, machinery safeguarding, work at heights and work in confined spaces are registered as related to Life Saving Rules (see right).

The decrease in total accidents this year followed an increase in 2021 for the first time since our 2015 target baseline, as a result of new UK operations joining our business. We expect efforts to embed our safety culture at these new breweries and logistics depots to contribute to further reductions in accidents next year (see page 54).

Several of our breweries have already made significant progress towards a ZERO Accidents Culture, including those in Germany (see page 53). In 2022, 30 of our 71 breweries globally achieved the safety milestone of 1,000 days without a lost-time accident.

### ADDRESSING SERIOUS INCIDENTS

We deeply regret that our best efforts were not enough to prevent two serious incidents in 2022. A sales employee of our associate in Myanmar tragically died in a traffic accident when his vehicle left the road, and a Carlsberg employee lost his arm in an accident involving a lathe machine at our brewery in Cambodia.

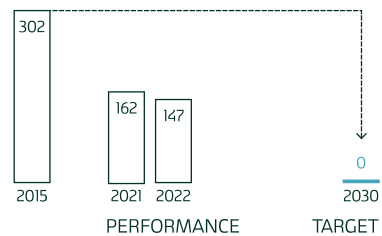
In the immediate aftermath of both these incidents, we took action to

analyse and address the root causes to prevent anyone else suffering a similar accident in the future. As part of this, we urgently reviewed our health and safety procedures, and accelerated the planned roll-out of further training on our Life Saving Rules to improve performance across the Group.

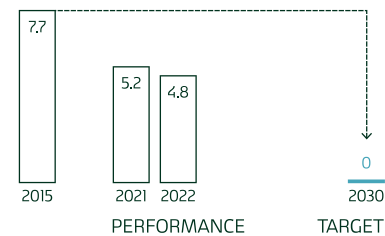
A new road safety standard specifically related to off-site traffic management has been published, incorporating lessons learned from the Myanmar incident. We also rolled out new training on machine safety that takes into account learnings from the incident in Cambodia.



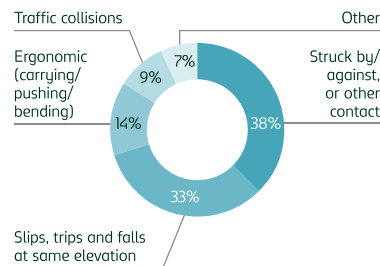
**LOST-TIME ACCIDENTS**  
(LTAs for Carlsberg employees) \*\*



**LOST-TIME ACCIDENT RATE**  
(LTAR for Carlsberg employees) \*\*



**LOST-TIME ACCIDENTS BY TYPE IN 2022**  
(LTAs for Carlsberg employees and contractors) \*\*



## WHAT WE MEAN BY A ZERO ACCIDENTS CULTURE

### ACCIDENTS:

We define these as workplace accidents that result in an injured or ill person being medically considered unable to work for at least one day, starting the day after the incident and ending the day before return to work, and including time away from work for rest, recovery or treatment. We report total accidents for employees and contractors. We are aiming for ZERO lost-time accidents by 2030.

### ACCIDENT RATE:

This is calculated as the number of lost-time accidents multiplied by 1,000 and divided by the number of full-time Carlsberg Group employees. We aim to reduce this rate each year as we work towards ZERO accidents by 2030.

\* Data for 2015 and 2021 restated to exclude Russia.

• 2022 data within PwC's assurance scope. See previous ESG and sustainability reports for assurance of data published in prior years.

\*\* Percentages are rounded.

## MANAGING SAFETY RISKS

Our *Health & Safety Policy* contains our pledge to create a ZERO Accidents Culture, outlines how we manage risks, and states that all health and safety incidents must be recorded. The policy includes our Life Saving Rules, and is backed up by detailed standards and guidance documents. Induction training for every new employee, temporary worker or contractor focuses strongly on health and safety, including targeted training on specific risks relevant to their role.

Robust health and safety management systems, certified to the ISO 45001:2015 standard at 70 of our breweries, support continuous improvement at our production sites.

Our Group Health & Safety team holds monthly safety calls to share best practices across the business, and our Health & Safety Council holds meetings every two weeks to discuss issues of concern and how they can be addressed. The Council is chaired by a member of the Executive Committee and consists of senior managers as well as health and safety leaders from each region.

Our Executive Committee receives monthly updates on our health and safety progress, while every meeting

of our Extended Leadership Team also starts with an update on health and safety.

## TARGETING TOP RISKS

Our Life Saving Rules set out five tenets, each supported by specific requirements, that help to prevent injuries by targeting our biggest risks (see page 52). We expect employees, temporary workers and contractors to follow these at all times, with potential disciplinary action for anyone who does not.

Each site is assessed, through our internal audit process, to see how well it complies with the standards and requirements of the Life Saving Rules. Our aim is to maintain at least 95% compliance globally, and we achieved 95.7% compliance in 2022.

This year, we ran intensive training on how to implement the Life Saving Rules that reached all employees globally. The mixture of classroom and online training provided in-depth guidance tailored to specific roles, including management, maintenance, production, office and sales staff. We cemented the training through tests and simulations in the workplace.



### CASE STUDY

## TOWARDS ZERO ACCIDENTS IN GERMANY

A strong focus on continuous improvement has helped us achieve an 88% reduction in lost-time accidents in Germany in 2022, even during a period of rapid growth in production.

To achieve this, health and safety have been top of mind across different levels of the organisation, with high awareness and frequent exchange on health and safety topics on a daily basis.

**"I'm very proud of this great result and my team because this was achieved by all employees. Together, we have managed to consistently focus on our safety, to act responsibly and to look out for each other. With sustainable success and for good reason, because: what is more important than health?"**

**Hans Dahnken**  
Integrated Supply Chain Director, Germany

Road traffic accidents are one of the biggest safety risks for our employees, and this year we developed a new standard specifically for off-site traffic management (in addition to our existing standard for on-site traffic management). We also introduced an app to enhance driver safety in several markets, starting in Malaysia (see page 51).

For our drivers, we continued to offer in-depth training on traffic safety – one of our Life Saving Rules. By the

end of 2022, online safety training had reached 99.6% of our 7,732 drivers across the business and practical defensive driving training had reached 99.9% of our planned training sessions, covering 50% of our drivers.

Ensuring that contractors and temporary workers understand and implement safe working practices is essential to our ZERO Accidents Culture. This year, according to our internal auditing programme, we met

our target to maintain at least 95% compliance with contractor management and temporary labour standards – achieving 95.6% and 96.8% respectively across our operations. We also retrained employees who are responsible for issuing contractors with permits to work on specific tasks to make sure the relevant safety requirements stay top of mind.

## EMBEDDING OUR SAFETY CULTURE IN THE UK

### KEY CHALLENGE

Our acquisition of Marston's brewing activities in the UK added six breweries and 16 logistics depots to our business. When we found accident rates were relatively high compared with other breweries where our ZERO Accidents Culture is well established, we took immediate and sustained action to address this challenge.

Awareness campaigns have reinforced our Life Saving Rules, together with training on specific risks such as working in confined spaces in older breweries. We have also increased the capacity of our dedicated health and safety teams in the UK, conducted risk assessments and implemented controls for high-risk processes.

We have rolled out health and safety leadership training to more than 200 people managers in our UK production and logistics functions to clarify roles, responsibilities and expectations for managing health and safety.

Safety walks by team and site leaders are now an integral part of everyday work. Managers completed more than 4,600 safety walks in 2022 and employees recorded more than 11,900 safety observations. We also increased our focus on reporting and investigating near misses, and will maintain this focus going forward to achieve a step change towards ZERO accidents in the UK.

## SAFETY OBSERVATIONS IN 2022

### PRODUCTION AND LOGISTICS TEAMS:

# 237,469

## SAFETY OBSERVATIONS GLOBALLY

15.1 per employee

# 153,349

## OBSERVATIONS SPECIFICALLY RELATED TO BEHAVIOUR

9.7 per employee

# 101,034

## SAFETY WALKS BY SITE AND TEAM LEADERS

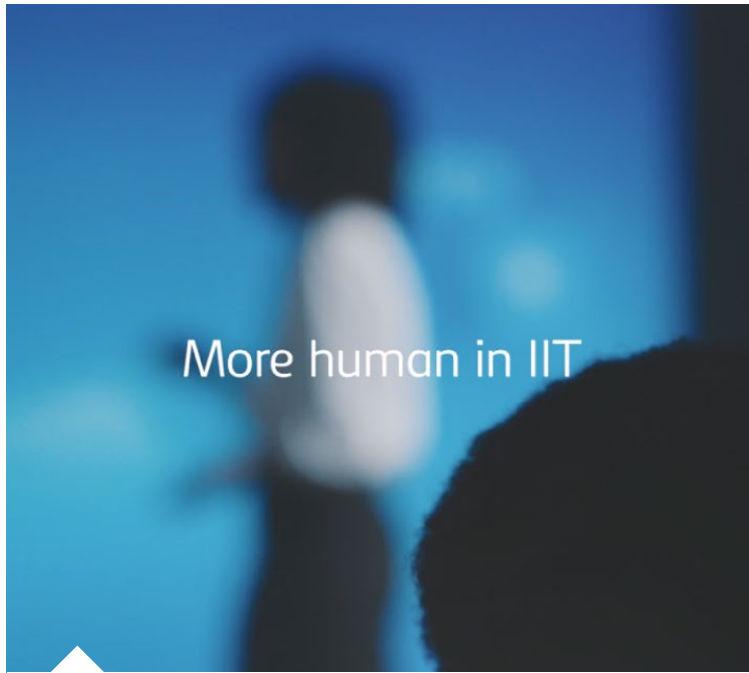
# 86.3

## SAFETY WALKS PER MANAGER

### SALES AND MARKETING TEAMS:

# 139,468

observations by sales and marketing employees in 11 markets where our Behaviour Safety Programme has been rolled out



## CASE STUDY

# MAKING REMOTE WORKING MORE HUMAN

Employees in our Integrated Information Technology (IIT) function are spread across markets, and many of them work remotely. Learning from the social isolation during COVID-19 lockdowns, we introduced regular informal sessions to give them a sense of community and a safe space to discuss wellbeing concerns.

Topics covered include stress management, burnout and motivation. With no detailed agenda and no recording of conversations, the virtual “More Human” sessions encourage participants to share their personal experiences in a supportive atmosphere.

## INSTILLING A SAFETY-FIRST MINDSET

We want to build a culture where everyone who works with us has the know-how and mindset to adopt safe behaviour in everything they do.

Empowering people to spot and report unsafe behaviours – and provide feedback to help each other improve – is an important aspect of this culture. We do this through our Behaviour Safety Programme.

Employees in our production and logistics teams, who have been implementing this programme for some time, reported an average of 9.7 behaviour observations each this year (up from 8.5 last year). In 2022, they reported a total of 237,469 safety observations – 153,349 of them related specifically to behaviour as opposed to other potential hazards.

Leaders play an important role in setting the tone, as well as practical observations and feedback through regular safety walks. More than 93% of leaders in production and logistics completed health and safety leadership training in 2022, as well as 90% of our leaders in sales. We plan to roll out similar training for sales and marketing leaders in 2023.

We have also continued to roll out the Behaviour Safety Programme to sales and marketing teams across the business, following a pilot in China last year. Across the ten additional markets<sup>3</sup> where this has been implemented, sales and marketing employees reported an average of 5.1 observations each in 2022.

Our new Health & Safety Responsibility Model, developed this year to complement our Behaviour Safety Programme once it is fully rolled out, aims to reward outstanding safe behaviour while setting out a clear framework for disciplinary action if anyone breaks the rules.

New standards on change management and occupational health and safety, introduced in 2022, recognise that many safety risks arise when changed circumstances occur in an uncontrolled fashion. The standards and accompanying training provide guidance on how to introduce change in a way that deals with potential risks, and outline occupational health and safety risks and the requirements for mitigating them.

## PROMOTING HEALTH AND WELLBEING








We thrive when our people thrive. Our health and wellbeing policies and programmes aim to help employees stay well and happy, both at work and at home.

We support employee wellbeing through locally tailored programmes that promote fitness activities, good nutrition, stress management and social interaction. Opportunities for flexible working have been well received (see page 61) and we provide support to help people feel they are still part of a community when working remotely (see left).

In 2022, we offered additional support for employees affected by the war in Ukraine, including regular wellness checks and accommodation or relocation assistance where needed, as well as wider support for affected communities (see page 72).

<sup>3</sup> Denmark, Greece, Hong Kong SAR, India, Kazakhstan, Laos, Latvia, Malaysia, Poland and Vietnam.





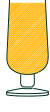
## ZERO ACCIDENTS CULTURE: OUR PROGRESS & TARGETS

PLANNED ACTIONS FOR 2022	STATUS	PROGRESS IN 2022	2022 TARGETS	STATUS	PLANNED ACTIONS FOR 2023	2030 TARGETS
Continue to implement our Behaviour Safety Programme for production and logistics teams, and roll out the programme to sales and marketing teams globally		Completed implementation of the Behaviour Safety Programme for production and logistics teams globally, and rolled it out to sales and marketing teams in ten more markets following an initial launch in China in 2021	<b>Reduction in accident rate year on year</b>	 <b>Fully achieved (-7% from 2021 and -37% from 2015)</b>	Complete roll-out of health and safety leadership training to remaining leaders in our operational, sales and marketing teams	<b>Reduction in accident rate year on year</b>  <b>ZERO lost-time accidents</b>
Conduct Health & Safety Leadership Training for all people leaders in supply chain and commercial functions		Achieved 93% completion on training sessions of leaders in production and logistics, as well as 90% of our leaders in sales; we plan to complete the training for all remaining leaders in 2023				
Roll out Health & Safety Responsibility Model for employees incorporating consequence, reward and recognition		Developed Health & Safety Responsibility Model, trained teams and created guidance on local consequence and recognition programmes				
Maintain at least 95% compliance with our Life Saving Rules globally		Achieved a compliance rate of 95% globally				
Develop a communication framework to enhance in-depth employee understanding of how to practically implement the Life Saving Rules at every workstation		Provided in-depth training for all employees to enhance their understanding of how the Life Saving Rules apply in their roles				
Launch new standard on off-site traffic management		Developed new standard specifically on off-site traffic management ready for roll-out in 2023				

 Fully achieved  
  Partially achieved  
  Not achieved



## ZERO ACCIDENTS CULTURE: OUR PROGRESS & TARGETS

PLANNED ACTIONS FOR 2022	STATUS	PROGRESS IN 2022	2022 TARGETS	STATUS	PLANNED ACTIONS FOR 2023	2030 TARGETS
Continue online and practical safe driving training for all company drivers		Provided online and practical safe driving training, reaching 99.6% and 50% of company drivers respectively	<b>Reduction in accident rate year on year</b>	 <b>Fully achieved (-7% from 2021 and -37% from 2015)</b>	Launch visionary health and safety leadership training, conduct core team training and train-the-trainer sessions	<b>Reduction in accident rate year on year</b>  <b>ZERO lost-time accidents</b>
Maintain at least 95% compliance with contractor management, permit-to-work and temporary labour standards		Achieved 95.6% compliance globally			Develop standards on slips, trips & falls, chemical management, and lifting & hoisting	
Retrain permit issuers and subject matter experts to ensure effective permit-to-work processes during contractor activities		Retrained all relevant employees on permit-to-work processes			Conduct Safety Day initiatives at all sites and offices; awareness-raising high-scale events promoting a health and safety culture and aiming to reduce the number of work-related injuries	
Launch new standards on occupational (physical) health and change management		Launched new standards on occupational (physical) health and change management, together with training for relevant employees				

 Fully achieved  
  Partially achieved  
  Not achieved

# PROMOTING DIVERSITY, EQUITY AND INCLUSION

**We aspire to create a fair, diverse and inclusive workplace where all our people feel they belong.**

As a large international business, we have a responsibility to promote diverse perspectives and voices in today's society. But for us, Diversity, Equity and Inclusion (DE&I) is a business priority, not a compliance necessity.

Carlsberg's many brands around the world are as diverse as our people, customers and consumers. Harvesting the diversity of experiences and perspectives of our employees helps us build a winning team where every colleague can be themselves. This sense of belonging supports creativity and innovation, making our business more successful.

Our DE&I focus is led from the top, and our leaders undergo dedicated inclusion training. We believe that getting the gender balance right will pave the way for more diverse representation, and we have set shorter-term targets to recruit and develop more women leaders into our traditionally men-dominated industry: 30% women in senior leadership roles by 2024, reaching 35% by 2027 and a minimum of 40% over time.

Promoting equity also builds trust in our culture. We provide equal access to opportunity through consistent, fair and transparent policies and practices, and we have zero tolerance for discriminatory behaviours and harassment.

As we continue on our DE&I journey, we will hold ourselves accountable by asking our people how we are doing through regular employee surveys and by measuring our maturity against industry peers.



5.5.2



8.5.1



10.2.1 & 10.3.1

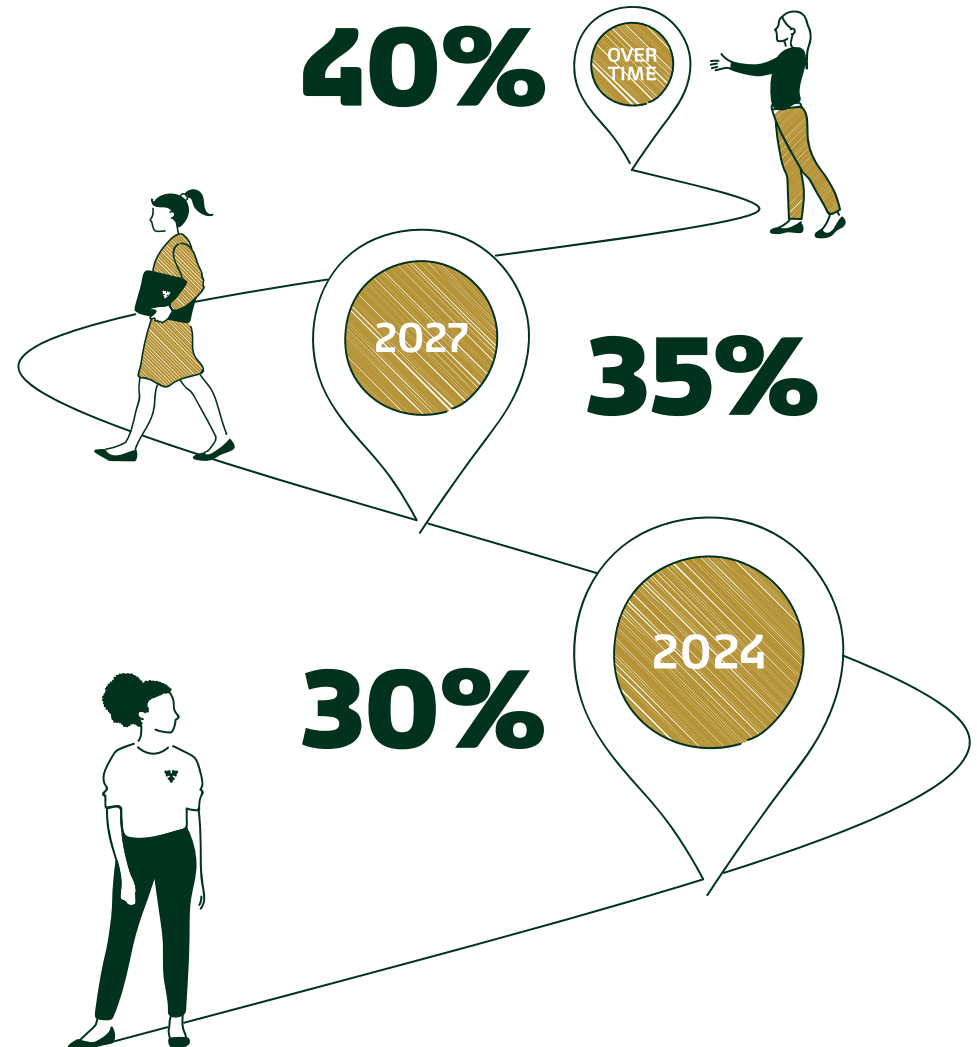


12.6.1



16.b.1

See SDG index, page 85.



**OUR DE&I COUNCIL:  
STEERING PROGRESS  
ACROSS CARLSBERG**

Our global DE&I Council helps drive our agenda and turn policy into practice. These eight senior leaders (see right) are drawn from across business functions and regions, bringing different backgrounds and perspectives to the table.

**Cecilia Lundgren, CFO, Western Europe, has the ambition for the DE&I Council to ensure a focus on all elements of the DE&I agenda, acting as a “conscience” to senior leaders and representing colleague voices and feelings from across the company.**

**“I firmly believe that progress will be made when we can attract, retain and nurture a diverse team that also feels a strong sense of belonging. The inclusion agenda is important. As human beings, we really want to be part of something; to feel that we are included. An organisation where people feel included and seen is much more engaged, much more efficient, and much more effective. So all elements of the DE&I agenda have to work together.”**



**CECILIA LUNDGREN**  
CFO, Western Europe,  
and DE&I Council Chair  
Denmark



**JORIS HUIJSMANS**  
Chief HR Officer, Group HR  
Denmark



**ARINDAM VARANASI**  
VP, Commercial, Asia  
Hong Kong SAR

**“Creating space for new perspectives and new ways of working is something that really stands out for me as an important lesson I have learned over the course of my career. To be more open to people for the skills, perspectives and traits that they bring to the table – especially if they are different from my own. Enabling everyone to feel this sense of belonging for their unique contribution will further nurture the winning culture of the Carlsberg Group.”**



**MYRIAM SHINGLETON**  
VP, Supply Chain, Western  
Europe  
Switzerland



**KATIE CHAN**  
VP, HR, Asia  
Hong Kong SAR



**IRYNA KACHURA**  
VP, Commercial, Central &  
Eastern Europe  
Denmark



**DEJAN BEKO**  
Managing Director Greece,  
Central & Eastern Europe  
Greece

**“One of the highlights for me in my work supporting DE&I at Carlsberg was participating in our #BreakTheBias panel discussion on International Women’s Day. I was able to share my perspectives on the theme of unconscious bias with colleagues from across the organisation, and it was wonderful to learn that this webinar had been viewed by over 1,000 people globally. I see a big part of our role on the Council as elevating the conversation and acting as a think tank – I’m looking forward to doing more of this going forward.”**



**SARAH HAYWOOD**  
CIO, Integrated Information  
Technology  
UK & Denmark

## DRIVING OUR DE&I AGENDA

DE&I is a global priority for our Together Towards ZERO and Beyond programme. It is embedded in our SAIL'27 business strategy and owned by our leaders.

We expect leaders to role model and champion inclusive behaviour as we work to create a culture that offers all employees opportunity to grow and a sense of belonging. Inclusive leadership is part of our Carlsberg Leadership Expectations, and all senior leaders have completed unconscious bias training.

Our CEO, Cees 't Hart, has led the way by undergoing training, promoting our DE&I efforts through townhall meetings and videos, and participating in candid conversations with employees at all levels. In 2022, Cees led a number of these DE&I-focused sessions with small groups of employees, gaining direct feedback on topics such as what an inclusive brewery and inclusive leader look like.

In 2022, we updated our *Diversity Equity & Inclusion Policy* to embed our commitment to equity and communicate the four pillars of our approach (see below). The policy commits us to prioritise DE&I initiatives and inclusive leadership, strive to build a more diverse

workforce where people have equitable access to opportunity, and integrate our DE&I priorities in key people processes.

Our DE&I Council, sponsored by the Chief Human Resources Officer, holds our leaders accountable for progress on our ambition and targets, and its members act as ambassadors for DE&I across Carlsberg (see page 59). Our regions also have active DE&I communities that meet every three months to exchange best practices across markets.

We monitor our progress by seeking feedback from managers in an annual, anonymous DE&I survey. The 2021 survey highlighted the

need for a greater focus on equity and more active engagement by leaders – both of which we have taken on board and started to address. In 2022, 1,894 managers responded and reported increased ratings in both the climate for inclusion at Carlsberg (rated at 77%) and their personal experience of inclusion (rated at 85%). DE&I questions are also included in our employee pulse surveys, with the next one planned for 2023.

To keep employees up to date with our DE&I efforts, we launched “Welcome You”, a global communications campaign with a strong emphasis on inclusion (see page 61). New content and forums include an updated intranet site explaining our ambitions and roadmap, an open space for suggestions and questions, our DE&I Commitment and support for local markets to build their own action plans.

Our teams and brands around the world actively support movements and partners that promote DE&I by shining a spotlight on specific issues. Approaches range from brand-led consumer-facing campaigns to internal engagement sessions with leaders and experts. Examples in 2022 included:

- **Brooklyn Brewery** continued to partner with the Stonewall Inn

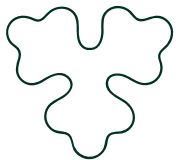
Gives Back Initiative on a campaign to #Create Space for LGBTQ+ activist voices.

- **Carlsberg Marston's** held an event for women employees in the UK to share their challenges and perspectives with women leaders.
- **Our Asia Human Resources team** hosted an extensive virtual panel discussion on gender equity, together with The Women's Foundation, attended by around 550 Carlsberg colleagues in Hong Kong SAR.

## EMBEDDING AN INCLUSIVE CULTURE

Our commitment to DE&I is a cornerstone of our company culture. We are taking action to embed DE&I in the way we train, recruit, appoint and promote people.

In 2022, we made our recruitment processes fairer by removing non-essential qualifications and experience from job descriptions, improving interview processes to reduce bias, requiring external agencies to shortlist more diverse candidates, and increasing the proportion of women taking part in hiring and leadership succession panels.



### BUSINESS PRIORITY

Our DE&I agenda is leader-owned and part of our Leadership Expectations.



### DIVERSE REPRESENTATION

Diversity in our workforce is a prerequisite for harvesting diverse experiences and perspectives.



### EQUITY

We provide equal access to opportunity, with zero tolerance for discriminatory behaviours and harassment.



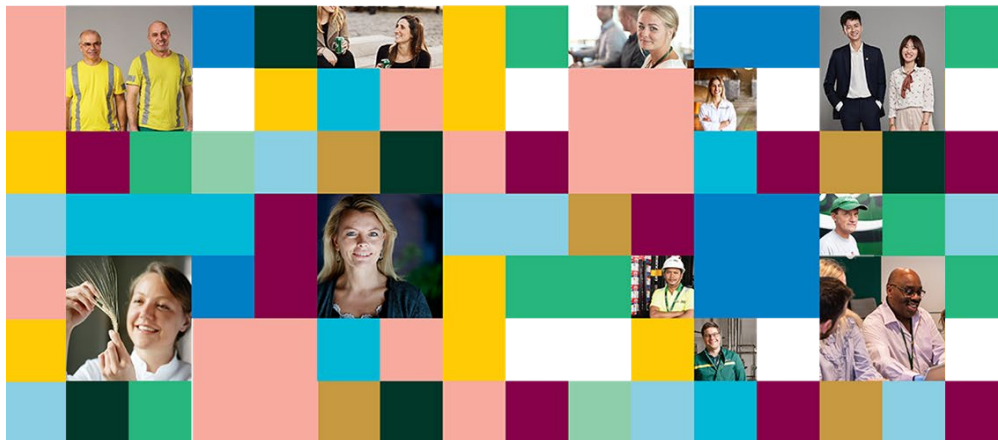
### INCLUSIVE CULTURE

Inclusive leadership behaviours are the foundation for an inclusive culture and a global mindset.



# WELCOME YOU

DIVERSITY EQUITY INCLUSION



Our people come from many different cultures and backgrounds, and we want everyone to feel they can bring their true selves to work. Inclusive leadership is the foundation of this inclusive culture. We continue to pilot dedicated training and coaching for executives and senior managers to raise their awareness of differences, bias and how to be an ally. The programme will be rolled out globally in 2023.

We also reinforced our zero tolerance for discrimination and harassment by introducing mandatory e-training this year, for all colleagues, on preventing and reporting sexual harassment.

that enable breweries and brewing companies to become more women-friendly, diverse and inclusive. In Sweden, we invited women engineers from a local university to tour our Falkenberg brewery, meet our women leaders and learn about career opportunities.

Flexible working and parental leave can be lifelines for women seeking to balance home and work life. Since 2021, we have empowered employees to work outside the office and normal working hours, with manager approval, which has proved very popular. A snapshot survey of around 120 managers found that 80% of them worked flexibly to some degree and 95% found it a positive experience.

## IMPROVING GENDER BALANCE

Brewing is historically a men-dominated industry. We are working as members of Brewers of Europe to develop tools and share knowledge

We believe our actions to enhance gender balance will also support a wider positive impact on DE&I as they offer benefits that many of our people will embrace. Each of our markets already sets local DE&I

### WOMEN AT CARLSBERG\*

	2020*	2021*	2022
Supervisory Board	26.7%	25.0%	35.7%
Executive Committee	0.0%	0.0%	0.0%
Senior leadership roles (director level and above)*	27.0%	27.3%	28.3%
Entry-level roles (graduates and apprentices)	54.0%	54.0%	46.0%

\* Data for 2020 and 2021 restated to exclude Russia.  
 \* 2022 data for senior leadership roles within PwC's assurance scope.

focus areas that include, for example, supporting LGBTQ+ employees or encouraging interaction across generations. In 2023, we plan to broaden our Group approach to DE&I, and we will encourage more employee resource groups across the company.

### REVIEWING EQUAL PAY

In 2022, we conducted a global equal pay audit to see how we measure up in achieving equal pay for equal roles. The review confirmed that there are no structural inequalities in the way we pay men and women employees. But despite offering equal pay for equal contribution, we do have an absolute pay gap. This discrepancy is driven by a higher proportion of men in more senior roles and in functional roles where the external market may support higher salaries.

### PROGRESS ON OUR WOMEN IN LEADERSHIP

In 2022, women represented 28.3% of senior leadership roles across the Carlsberg Group, and we set new targets to increase this to 30% by 2024, 35% by 2027 and 40% over time. Several of our markets have already achieved 50% or higher representation of women in their local leadership teams.

Gender balance among our senior leaders continued to improve in

2022. Ulrica Fearn joined the company and Executive Committee as our Chief Financial Officer in January 2023, and we appointed women managing directors in Singapore and Norway.

Women have historically been under-represented on the Carlsberg Supervisory Board. As per the Annual General Meeting 2022, three of the nine members elected by the General Meeting are women. This represents an equal distribution of gender according to the Danish rules on diversity in top management. At the Annual General Meeting in 2023, Carl Bache will, as previously announced, not stand for re-election. This will bring the under-represented gender to three women out of eight members elected by the General Meeting. The other members are representatives chosen separately by employees.

At Carlsberg Breweries A/S, one of four elected members of our governing Supervisory Board is a woman. At Carlsberg Danmark A/S one of three Supervisory Board members is a woman and at Carlsberg Supply Company Danmark A/S, two of three Supervisory Board members are women. At Carlsberg Integrated Information Technology A/S, two of four Supervisory Board members are women.

## DEVELOPING OUR PEOPLE

At the heart of the Carlsberg Group are the employees who make it all possible. We provide them with the tools, training and opportunities they need to succeed, develop their careers and support our business. Employees set personal goals and plans each year with their managers. To enable frequent, two-way feedback, we encourage Continuous Dialogues (typically monthly). This year, we introduced e-training for all managers on how to approach and foster this continuous dialogue.

In 2022, our people benefited from an average of 16 hours of professional development. Much of this training is delivered through our online learning academies. These provide targeted training for people in different roles and functions across the business, including commercial, leadership, financial, compliance and production. Other courses enable our people to learn new skills or explore a different part of the business.

We also offer LinkedIn Learning, accessed by more than 2,000 employees since its launch last year. In 2022, users completed over 10,000 courses, viewing around 10,400 hours of content. As the world of work changes, we add

development options that help our people keep up. This year, for example, we introduced a new programme on working in the hybrid world.

At manager level, 54 people completed our global leadership training for high-potential employees, with markets offering additional leadership development opportunities.

## ENGAGING EMPLOYEES





Our business centres around moments that bring people together, and we are working to build a similar culture of belonging among our global employees.

To keep closer track of how our people are feeling, we are moving from biennial surveys to more frequent pulse surveys and will run the next survey in 2023. We also continue to hold townhall meetings and listening sessions led by our CEO and leadership, while our markets conduct local engagement activities.

We hold formal consultations with employee representatives globally and recognise the right to collective bargaining. In 2022, 58% of our employees worldwide were covered by collective bargaining agreements.



## PROMOTING DIVERSITY, EQUITY & INCLUSION: OUR PROGRESS & PLANNED ACTIONS

PLANNED ACTIONS FOR 2022	STATUS	PROGRESS IN 2022	PLANNED ACTIONS FOR 2023	TARGETS
Repeat DE&I survey to track progress of our agenda with a wider group of employees		Conducted a DE&I survey among our managers globally, receiving over 1,800 responses	Roll out DE&I survey to all employees, continuing to track progress and getting input from all	
Evaluate our equity processes and conduct a deep-dive review and audit on equal pay and parental leave		Conducted an equal pay audit and a review of parental leave, as well as evaluating how markets are using our flexible workplace guidelines	Deliver training on preventing sexual harassment to all employees	<b>30% women in senior leadership roles by 2024</b>
Build inclusive leadership behaviours through training, masterclasses and coaching		Continued to pilot inclusive leadership training and coaching led by external experts	Roll out inclusive leadership training and coaching to leaders across the business	<b>35% women in senior leadership roles by 2027</b>
Continue to debias our people processes to enable decision-making based on facts and data		Stepped up debiasing efforts, including requiring equal man-woman candidate shortlists from external agencies and removing non-essential qualifications and experience from job descriptions	Continue to debias our people processes to enable decision-making based on facts and data	<b>Minimum of 40% women in senior leadership roles over time</b>

 Fully achieved
  Partially achieved
  Not achieved

# LIVING BY OUR COMPASS

## At Carlsberg, we take an ethical approach to all our business decisions and stakeholder relationships.

Our company's success is rooted in doing business responsibly. This commitment is deep in our DNA, and it is what our people, customers, business partners and communities expect of us.

We create a winning culture by defining clear standards on ethical behaviour for employees to follow in their daily decision-making – and our Board of Directors, CEO and executive team lead by example. We call this approach Living by our Compass, and it supports all our efforts in going Together Towards ZERO and Beyond.

Carlsberg maintains a rigorous compliance programme that includes



12.6.1

See SDG index, page 85.



16.5.2

our *Code of Ethics & Conduct* and supporting policies, training, third-party screening and a Speak Up helpline.

We are committed to continual improvement, and this year we strengthened controls in areas such as employee conflicts of interest and screening of higher-risk third parties for bribery and sanction risks.

## SETTING HIGH STANDARDS

Our *Code of Ethics & Conduct* is the backbone of our global compliance programme, guiding the daily decision-making of our employees and contract workers. It covers a range of key issues, including anti-bribery and corruption, conflicts of interest, competition law, data protection and privacy, political activities, and discrimination and harassment.

We take a zero-tolerance approach to bribery and corruption, and our *Anti-bribery & Corruption Policy* guides employees on how to identify and avoid red-flag situations. Additional manuals provide further guidance and examples to support

our day-to-day decision-making in areas including gifts and hospitality and dealing with government.

The *Code of Ethics & Conduct*, available in 29 languages, includes an ethical decision-making guide to help employees make the right choices when faced with common dilemmas. New hires take online training on the Code, and our existing people repeat this training every three years to reinforce the mindset of doing the right thing. In 2022, 6,359 new and existing employees completed this training globally. We also provided in-depth training on anti-bribery and corruption for employees in higher-risk roles who regularly interact with government.

Our high expectations on ethical behaviour extend to our thousands of business partners and suppliers around the world, as set out in our *Supplier & Licensee Code of Conduct*. We conduct third-party screening on key ethical risks, as well as adopting wider audits and controls through our Responsible Sourcing programme (see page 69).

## STRENGTHENING COMPLIANCE

We strive to maintain a high-integrity culture across our global operations. Our individual markets implement compliance controls, with oversight at Group level. In 2022, our markets assessed the performance of more than 1,000 compliance controls using our automated B Wise tool, and rated 96% of them as effective. Relevant markets have implemented action plans to address any areas requiring improvement. We review and update our policies every three years and continually refine our compliance controls based on regulatory requirements, best practice and insights from Speak Up concerns raised by our employees and others.

In 2022, we completed a global pilot and rolled out an enhanced anti-bribery and trade sanction screening process. So far, over 4,000 of our higher-risk third parties including relevant new business partners globally have been screened. An automated tool screens third parties, including agents, consultants and service providers, for a range of red flags, enabling us to take appropriate follow-up action where any potential

issues are identified. Red flags could pertain to bribery or corruption risks, such as cases where third parties have been subject to bribery-related investigations or adverse media exposure about their past behaviour. Additional improvements to compliance controls this year include strengthening our wider programme on Responsible Sourcing (see page 69) and our processes for managing conflicts of interest (see page 65).

We are also exploring ways to better use data in our compliance programme, reflecting growing expectations from regulators. This year, we trialled an automated tool designed to detect fraud and higher-risk financial transactions, such as expenses, celebrations and administrative costs. No significant issues were detected in the review of financial transactions in the pilot market.

## SPEAKING UP

Living By Our Compass requires constant vigilance and the active participation of our people. We encourage our employees, contract workers and business partners to always speak up if they have ethical concerns, without fear of retaliation.



Employees can report potential breaches of our *Code of Ethics & Conduct* by talking to their manager, their local human resources or local legal and compliance representative. Anyone can report concerns directly to our senior managers in each market, or anonymously through our [speakup@carlsberg.com](mailto:speakup@carlsberg.com) mailbox or *Carlsberg Speak Up Line*. This 24-hour helpline is run by an independent operator and is available by phone or online in the local language everywhere we operate.

Our global Speak Up awareness campaign uses online forums and townhall meetings to encourage people to report any misconduct they witness, and emphasises that they can do so confidentially and anonymously. We are closely monitoring roll-out of the EU Whistleblower Directive, and the Carlsberg Group's Integrity Committee is overseeing efforts to ensure that our rules and controls comply with the Directive's implementation in each Member State.

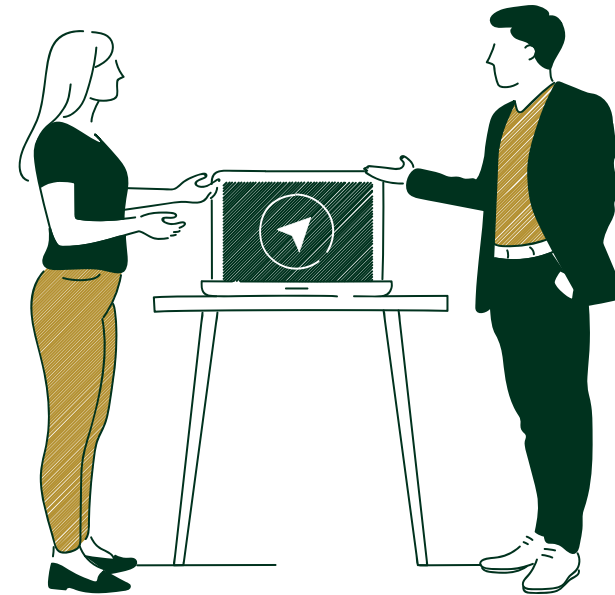
## RESPONDING TO CONCERNS

Every concern raised about alleged breaches of our *Code of Ethics & Conduct* is reviewed and investigated

by our Group Internal Audit team or trained local representatives. Our Integrity Committee, made up of senior executives and chaired by the Chief Financial Officer, oversees the investigation of the most serious allegations.

In 2022, we received reports of 157 suspected cases of misconduct across Carlsberg, the same number as in 2021. Of 161 cases closed in 2022, 58% were fully or partially upheld following investigation. As a result, 46 employees were dismissed, 51 received a verbal or written warning, and 20 were required to attend feedback meetings.

In 2022, allegations of potential corruption resurfaced in relation to the expansion of our Alivaria brewery in Minsk, Belarus, as well as transportation costs and equipment purchases at the site. Similar allegations were made in 2019 and thoroughly investigated by Carlsberg, with support from Deloitte, with no findings of wrongdoing. This year, we again investigated the allegations, conducting interviews with employees and reviewing relevant accounts, data and asset registers. We again found no substance to the allegations.



### CASE STUDY

## GUIDING OUR PEOPLE THROUGH CONFLICTS OF INTEREST

Our *Code of Ethics & Conduct* makes clear that employees must disclose any potential conflicts of interest – where their personal interests may influence their ability to act objectively in the best interest of Carlsberg. However, sometimes people are unsure what counts as a conflict. So this year we published new guidance, with practical real-life examples, to help employees and their managers better understand the various circumstances that can create a personal conflict.

All senior managers and all those in procurement roles are asked to disclose any potential conflict of interest annually. Anyone who discloses a conflict of interest must also detail the mitigating actions they will take, and these mitigating actions must be approved by their managers. Reminders prompt relevant employees to follow through on their commitments, and local spot checks are undertaken in each market to ensure that potential conflicts of interest are being properly managed.

## LIVING BY OUR COMPASS: OUR PROGRESS & PLANNED ACTIONS

### PLANNED ACTIONS FOR 2022

### STATUS

### PROGRESS IN 2022

<p>Pilot automated compliance controls to facilitate real-time data insights</p>		<p>Trialled an automated, customised fraud and risk detection tool that tracked and reviewed financial transactions in the pilot market</p>
<p>Review and refresh guidance for policy owners on how to effectively guide conduct and behaviour</p>		<p>Conducted our regular review of corporate policies and continued to roll out our updated <i>Code of Ethics &amp; Conduct</i>, which includes simple checklists and an ethical decision-making tool for employees, but postponed planned guidance specifically for policy owners until 2023</p>
<p>Complete the pilot and roll out the enhanced anti-bribery and trade sanctions screening process to relevant new third parties globally</p>		<p>Completed the global pilot and rolled out the enhanced screening process to screen over 4,000 new and existing higher-risk third parties globally</p>

 Fully achieved
  Partially achieved
  Not achieved

### PLANNED ACTIONS FOR 2023

<p>Continue to pilot automated compliance controls to facilitate real-time data insights</p>
<p>Review and refresh guidance for policy owners on how to effectively guide conduct and behaviour</p>
<p>Embed the enhanced screening process into business-as-usual activity worldwide</p>

# RESPECTING HUMAN RIGHTS

## Respect for people is an essential part of how we do business.

At Carlsberg, we are committed to respecting human rights throughout our value chain. This commitment applies to all our activities and relationships, including employees, contractors, suppliers and licensees.

We are committed to the UN Guiding Principles on Business and Human Rights, which guide our approach. We are also a signatory to the UN Global Compact and support its ten principles, which include a strong focus on human rights.

Respect for people and their fundamental rights is one of our core values and integral to the Together Towards ZERO and Beyond programme that supports our SAIL'27 business strategy.

Our *Human Rights Policy*, overseen by our Executive Committee, outlines our commitments and expectations for all employees and business partners globally. Requirements related to human rights are also covered in our *Supplier & Licensee Code of Conduct*, that all suppliers and licensees must commit to.

standards for working hours, wages and benefits, and health and safety.

We embed these commitments in our daily activities and business relationships through our *Human Rights Policy*. Putting the policy into practice is a responsibility that is shared across our business. Our Global Head of Responsible Sourcing & Human Rights oversees our approach and guides relevant teams on how to integrate human rights within each business function. Employees in Group functions such as human resources and procurement complete dedicated human rights training to help them understand how to put the policy into practice.

Our Responsible Sourcing programme, led by our Global Head of Responsible Sourcing & Human Rights, helps us identify and mitigate human rights risks related to our supply chain (see page 69).

## EMBEDDING HUMAN RIGHTS

Our commitment to respecting human rights is based on international human rights standards. These include the Universal Declaration of Human Rights, the International Covenant on Economic, Social and Cultural Rights, the International Covenant on Civil and Political Rights and its two Optional Protocols, the International Labour Organization's (ILO) Declaration on Fundamental Principles and Rights at Work, and additional ILO conventions setting

## CONDUCTING DUE DILIGENCE

Working with Shift, an organisation of global experts in this area, we went through an assessment process to identify, assess and prioritise human rights risks in 2020. In 2022 we repeated this process with Shift's support and will revisit the topic every year going forward. These assessments take into account stakeholder views, lessons learned and any changes to the business that could have an impact on human rights.

The assessment process also considers the areas of human rights that could potentially be impacted, considering the characteristics of our business based on research related to our industry and human rights. Once those areas are identified, these potential impacts are ranked considering severity (scope, scale and remediability) and likelihood.

The results of this process indicate that the areas where there could be a potential adverse impact in connection with our value chain include working hours, wages and benefits, forced and child labour, harassment and discrimination,

health and safety, access to water and land rights. These are some of our salient issues, which aid us in prioritising our work, in line with the UN Guiding Principles. Our longstanding mitigation measures include:

- Human rights training for employees in functions such as Procurement, Human Resources and Public Affairs.
- Our *Supplier & Licensee Code of Conduct*, supported by supplier contract clauses and compliance monitoring, and our new Responsible Sourcing programme that includes processes and tools to identify, assess and audit high-risk suppliers starting from 2023.
- Our *Code of Ethics & Conduct*, related policies (including those covering health and safety, and diversity, equity and inclusion) and accompanying training that set out what we expect from our employees in various areas of human rights.
- Our *Brand Promoter Manual*, which further equips our brand promoters to understand how to put our *Human Rights Policy* into practice, together with training and dialogue.



8.5.1, 8.7.1,  
8.8.1 & 8.8.2



10.2.1 & 10.3.1



12.6.1



16.b.1

See SDG index, page 85.

In 2022, we developed a human rights roadmap that will expand on these activities in response to our latest assessment of salient issues. We also strengthened our Responsible Sourcing programme (see page 69) and engaged in enhanced due diligence activities in one high-risk market.

2022 also witnessed the Russian invasion of Ukraine, which we strongly and publicly condemned. We activated an emergency response team that maintained daily contact with affected employees to improve our understanding of the situation and their needs. For information on our response to the refugee crisis and reconstruction efforts, see page 72.

## GRIEVANCE MECHANISMS AND REMEDY

We are committed to remedying, or cooperating in the remediation of, any adverse human rights impact we may have caused or contributed to. We encourage any employee who believes that our policies have been breached to raise their concerns with their manager or their compliance or HR representative – or anonymously via our third-party Speak Up platforms (see page 64). Speak Up is also available to anyone outside the company concerned about human rights violations in connection with our value chain. Telephone and online reporting are available through our *Carlsberg Speak Up Line* in 300 and 58 languages respectively.

In 2022, we received 157 Speak Up reports, of which 68 were on human rights topics. These related to discrimination and harassment (15%), retaliation (2%), health and safety (7%), labour law (7%) and other human resources issues (69%). Of the human rights investigations we

completed during the year, 62% were fully or partially substantiated, and we addressed each of these through an agreed action plan.

The charts below show the breakdown of all concerns reported to us by type and region with

General HR matters and Other integrity breaches being the most common allegations of misconduct.

## HUMAN RIGHTS: OUR PROGRESS & PLANNED ACTIONS

### PLANNED ACTIONS FOR 2022

### STATUS

### PROGRESS IN 2022

### PLANNED ACTIONS FOR 2023

Continue to embed human rights in company-wide governance and compliance systems, including strengthening regional governance structures and human rights monitoring



Provided employees in relevant teams with refresher training on human rights

Conduct human rights risk assessments and develop action plans to address potential human rights risks identified, including a focus on third-party labour



Reassessed potential areas of impact and saliency, taking into account stakeholder views as well as relevant changes in our business and operating environments

Developed a human rights roadmap of actions to enhance the management of our most salient issues

Refined our Responsible Sourcing programme to increase focus on salient human rights issues in the supply chain

Conducted enhanced due diligence activities in one high-risk market

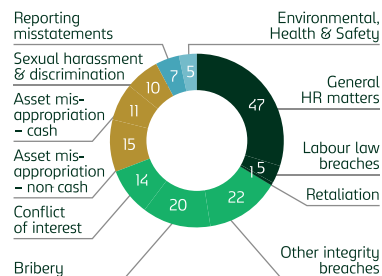
Monitor our human rights progress with oversight from our new ESG Steering Committee

Conduct an annual revision of our salient human rights issues

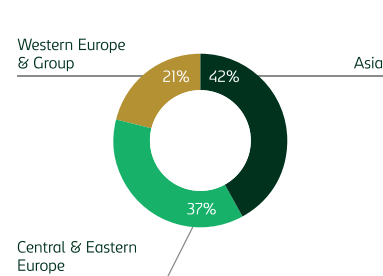
Roll out a new Responsible Sourcing programme to increase focus on salient human rights issues in the supply chain



REPORTED CONCERNS BY TYPE IN 2022 (Number)



REPORTED CONCERNS BY REGION IN 2022 (Percentage)



# SOURCING RESPONSIBLY

**We aim to collaborate with suppliers who share our values and responsible approach to doing business.**

Carlsberg partners with tens of thousands of suppliers around the world who provide us with the ingredients, packaging and logistics we need for our beer, as well as goods and services to keep our operations running.

To work with us, suppliers must meet the standards set out in our *Supplier & Licensee Code of Conduct* and accompanying technical standards, and commit to extending these requirements to their own suppliers.



8.7.1, 8.8.1  
& 8.8.2



10.3.1



12.6.1



16.b.1

See SDG index, page 85.

The wide-ranging standards cover business ethics, labour and human rights, quality, health and safety, and environmental sustainability. Additional commitments for key suppliers to cut their environmental footprint also support wider progress across our ESG programme in areas such as ZERO Carbon Footprint.

This year, we strengthened our Responsible Sourcing programme and joined two external platforms, AIM-Progress and Sedex, to help us drive positive impact in our own supply chain and beyond.

## EMBEDDING HIGH STANDARDS

Sourcing responsibly supports our winning culture and is an integral part of Together Towards ZERO and Beyond.

Our *Supplier & Licensee Code of Conduct* provides detailed guidance to our business partners on our requirements and expectations. Building on our revised Responsible Sourcing programme and existing code we will roll out associated training, starting with our own procurement, legal and HR teams.

To further strengthen our Responsible Sourcing programme, we have joined two global initiatives:

- AIM-Progress, a forum of fast-moving consumer goods manufacturers and suppliers that share best practices for responsible sourcing and sustainable supply chains.



- Sedex, a membership platform that enables companies to manage and improve working conditions in their global supply chains.



We will collaborate with industry peers through both forums on solutions that drive positive impact in our own supply chain and beyond. Starting in 2023, we will also use the Sedex risk assessment tool, Radar, to screen suppliers and the Sedex Members Ethical Trade Audit (SMETA) methodology to audit high-risk suppliers.

**"We're delighted that Carlsberg has joined our network of branded consumer goods manufacturers working to embed human rights due diligence in global supply chains. AIM-Progress thrives on the willingness of well-known brands to collaborate, share best practice, converge responsible sourcing approaches and develop further tools and guidance to improve the lives of workers and communities."**

Louise Herring  
Executive Director, AIM-Progress

**"Sedex is delighted to welcome Carlsberg as a member. We welcome their commitment to responsible business, and look forward to supporting them to achieve their social and environmental sustainability goals."**

Jon Hancock  
CEO, Sedex

## ASSESSING SUPPLIER RISK

Joining the Sedex platform strengthens our Responsible Sourcing programme by enabling us to better understand ESG risks in our supply chain and target improvements where they are most needed.

From 2023, our new supplier assessment process will begin with a pre-screening using the Sedex risk assessment tool, Radar, to identify high-risk suppliers based on their location and type of business, taking into consideration risks related to human rights, ethics, environment, and health and safety. Suppliers are assigned a risk level based on research into red flag areas including human rights, ethics, environment, and health and safety. Any suppliers flagged for risks related to our salient human rights (see page 67) are automatically taken to the next step in the assessment process.

Suppliers identified as high-risk, starting with the highest-risk, will be required to complete a comprehensive self-assessment questionnaire on how they manage labour, ethical, environmental, and health and safety risks. Where

concerns arise, these suppliers will then undergo a rigorous SMETA audit covering these same four key areas. Any supplier that fails to comply with SMETA criteria will undergo a follow-up audit to confirm that all issues have been remediated.

We will exempt certain suppliers from this process if they have been through a relevant assessment or certification, such as the Sustainable Agriculture Initiative Platform’s Farm Sustainability Assessment (see page 24).

We also conduct a separate screening of suppliers on specific aspects of ethical compliance (see page 64).

Among our major breweries, all European sites and 92% of those in Asia use quality management systems certified to ISO 9001. We also follow the Global Food Safety Initiative (GFSI) standards, which support continuous improvement throughout the supply chain. All our major European breweries are certified to GFSI-recognised schemes and 87% in Asia have GFSI-equivalent qualifications. In 2022, no product recalls were required.

## RESPONSIBLE SOURCING: OUR PLANNED ACTIONS

### PLANNED ACTIONS FOR 2023

Launch revised Responsible Sourcing programme and train relevant internal stakeholders, including procurement, HR and legal teams

Launch third-party audits, using the SMETA programme, of suppliers identified as highest-risk

Begin pre-screening of suppliers using Sedex Radar tool

## ENSURING PRODUCT QUALITY AND SAFETY

In addition to our wider Responsible Sourcing programme, we require suppliers that provide us with raw ingredients and packaging to meet good food safety standards, and we monitor their compliance through regular quality audits. We also employ stringent checks and controls designed to identify and remedy any issues before products leave our premises.



# ENGAGING COMMUNITIES

**We engage our communities responsibly, and work with business partners and non-profits to give back to society.**

As a global business with well-known brands, we influence consumers and have an impact on people's lives wherever we operate. We give back through appropriate corporate and brand-led initiatives that create positive impact and mutual benefits for Carlsberg and for wider society.

Some of our community projects support our global focus areas on our journey Together Towards ZERO and Beyond. Others are driven by community needs or sustainable development issues that are important to local stakeholders.

The Carlsberg Foundation is our principal shareholder and a major benefactor of Danish society. Together with the New Carlsberg Foundation and the Tuborg Foundation, the Carlsberg Foundation donated DKK 1.03bn to scientific research, the arts and civil society in 2022. This unique structure

means that the more successful our business, the bigger the difference the Foundations can make to society and communities with the dividends from Carlsberg Group.

## GIVING BACK TO COMMUNITIES

We see our community initiatives as a way of putting our purpose into practice around the world, supporting local communities and contributing to relevant UN Sustainable Development Goals.

Some programmes are driven by our other Together Towards ZERO and Beyond priorities, such as our work with local partners to safeguard water resources (see page 41) and promote responsible drinking (see page 43). Others arise from our local teams' market research and knowledge of local community needs.

The map (see right) shows some of the places and ways we have engaged with communities to respond to local needs in 2022:



### GERMANY

In September, Carlsberg Germany volunteers collected more than 200 kg of litter from the banks of the Alster river and the streets of Hamburg's Reeperbahn nightlife district.



### Hong Kong SAR

Colleagues from Hong Kong SAR and our Asia regional office donated and bought unused items in a "Waste Not, Hunger Not" event to raise funds for Food Angel, a local organisation that provides meals to the needy. The team also supported the cause on the ground by helping to prepare hundreds of meal boxes in one of the Food Angel kitchens.



### SWITZERLAND

Our Uszit brand, launched in 2021, is marketed as "Just a beer. But a better one." For every can sold, a donation goes to local organisations focused on protecting Swiss forests. Through the sale of nearly 8 million beers, Uszit already supports 14 projects and more than 12 hectares of forest, and its support will expand as the brand grows further.



### UK

Carlsberg UK continued its partnership with WWF-UK to help protect ocean wildlife by restoring seagrass along the UK coastline, and raised awareness of the partnership across all channels, including producing limited-edition packs.



### GREECE

Local power brand FIX Hellas continued its partnership with the Athens city municipality to transform two neglected parks into community hubs with thousands of diverse plants that attract wildlife and mitigate pollution, as well as new benches and art installations. The restored Fix Park was the national winner in the Green Cities Europe 2021 competition, and in 2022 brand sales supported local NGOs' restoration projects that focused on adding greenery and cleaning up litter in urban neighbourhoods.



### POLAND

Volunteer firefighters make up 16,000 units across Poland and engage over 700,000 people in their support to their communities. Local power brand Harnaś used its primary packaging to raise awareness of these firefighters and donated PLN 200,000 (DKK 0.3m) to the firefighting units voted for by over one million consumers.



### UKRAINE

We supported communities affected by the war in Ukraine (see page 72).



### VIETNAM

Local power brand Huda rolled out additional community water projects, and engaged locals to become water ambassadors (see page 73).



# COMMUNITY ENGAGEMENT IN ACTION

## AID TO UKRAINE

Carlsberg has a long history in Ukraine. Our three breweries – in Lviv, Kyiv and Zaporizhzhya – employ 1,300 people. Following the Russian invasion, we took steps to support our people and communities on the ground.

In early March, the Carlsberg Group, the Carlsberg Foundation and the Tuborg Foundation together pledged DKK 75m to support the humanitarian relief effort, which we channelled through international aid groups.

We supported evacuation transport and re-housing for affected employees, and set up Project Lux to distribute a EUR 0.57m fund (DKK 4.2m) to help maintain electricity and internet connection through blackouts at employees' homes. In 2023, we will triple our annual overall business investment in Ukraine to UAH 1.5bn (DKK 286.4m).

We also partnered with the Red Cross to collect donations from our employees around the world, and provided funds directly to Polish and Ukrainian NGOs helping the displaced. Our local markets and employees also responded to Ukraine's plight in inspiring and creative ways. Our support for communities during 2022 included:

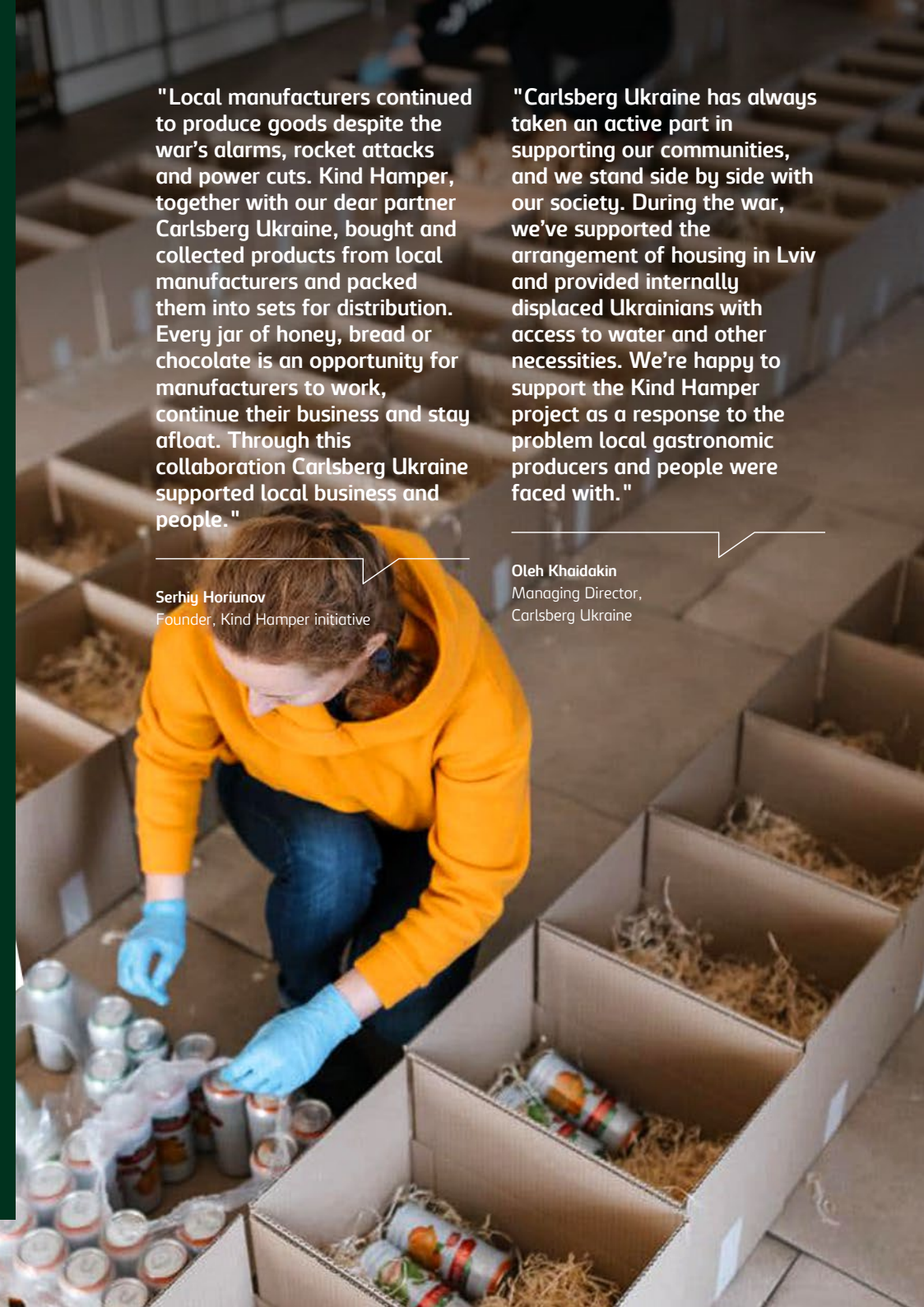
- **Delivering bicycles:** We teamed up with Bikes4Ukraine to send hundreds of bicycles from Copenhagen to Lviv to help people who have resettled there get around, and support delivery of food and medicine.
- **Distributing food:** Through the Kind Hamper for Ukrainians initiative, we supported communities by buying food from small local businesses for distribution to people in need in Kyiv and Zaporizhzhia.
- **Providing drinking water:** We repurposed our Ukrainian production facilities to manufacture bottled water and worked with NGOs to deliver over 3 million litres to cities where drinking water supplies were running low.
- **Rebuilding:** Our Lvivske brand, sponsor of Ukraine's football team, supported new housing for internal refugees in Lviv by making a donation to the UNITED24 reconstruction fund for every fan's vote for "Lion of the match".
- **Rehabilitating:** We supported the UNBROKEN National Rehabilitation Centre to provide bionic prostheses for people injured in the war.
- **Supporting scholars:** The Carlsberg Foundation donated DKK 5m to bring displaced Ukrainian scholars to Danish universities, funding up to 24 fellowships with the Novo Nordisk Foundation and Villum Foundation.

"Local manufacturers continued to produce goods despite the war's alarms, rocket attacks and power cuts. Kind Hamper, together with our dear partner Carlsberg Ukraine, bought and collected products from local manufacturers and packed them into sets for distribution. Every jar of honey, bread or chocolate is an opportunity for manufacturers to work, continue their business and stay afloat. Through this collaboration Carlsberg Ukraine supported local business and people."

Serhiy Horiunov  
Founder, Kind Hamper initiative

"Carlsberg Ukraine has always taken an active part in supporting our communities, and we stand side by side with our society. During the war, we've supported the arrangement of housing in Lviv and provided internally displaced Ukrainians with access to water and other necessities. We're happy to support the Kind Hamper project as a response to the problem local gastronomic producers and people were faced with."

Oleh Khaidakin  
Managing Director,  
Carlsberg Ukraine





## CARLSBERG FOUNDATION GOES BEYOND WITH DKK 1.03BN CONTRIBUTION

The Carlsberg Foundation is one of the world's oldest enterprise foundations, supporting visionary and innovative scientific research since 1876. As principal shareholder, it receives almost 30% of Carlsberg Group dividends.

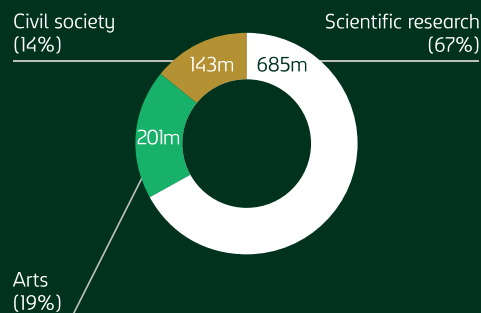
The Carlsberg Foundation also funds the New Carlsberg Foundation and the Tuborg Foundation. In 2022, the three foundations awarded grants totalling DKK 1.03bn to support ground-breaking scientific research as well as the arts and civil society.

Leading Danish researchers received DKK 685m in total for projects in the humanities, social sciences and natural sciences. Wide-ranging topics include the role of children's media, anti-cancer mechanisms in certain viruses, the impact of noise from ships on baleen whales, and environmental stressors on crop production and biodiversity.

For more on the Carlsberg Foundation, see page 78.

### GIVING BY TOPIC IN 2022

(Number and percentage)



### CASE STORY

## ENCOURAGING PEOPLE TO BECOME AMBASSADORS FOR WATER IN VIETNAM

In Vietnam, our Huda brand launched a social media campaign to share water-saving tips and raise awareness of the importance of water security in rural Vietnam.

Local influencer and YouTube channel Quang Linh Vlogs helped launch the Huda Fresh Water Ambassador Challenge campaign to encourage people across the country to become fresh water ambassadors by taking practical actions to cut down on their water use and inspire others to do the same. The campaign achieved roughly 385,000 social media engagements across Huda, Quang Linh Vlogs and micro-influencer channels.

**"My whole family has taken part in this challenge in order to share the joys of having access to fresh water. The five actions of the challenge were quite easy to put into practice and we have saved money on our water bills, as well as spread a clean water message."**

**Bui Tung Giang**

Huda Fresh Water Ambassador Challenge participant

# CONTRIBUTING TO ECONOMIES

The impact of our business goes beyond bringing enjoyment to millions of consumers by making a positive contribution to economies and communities worldwide.

The jobs we create in our own operations and in related sectors, as well as the taxes we pay, make a significant difference to local and national economies. We operate across markets in three regions around the globe, supporting UN Sustainable Development Goal 8 to promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.

In 2022, our business continued to demonstrate resilience despite the economic headwinds caused by rising global inflation, Russia's invasion of Ukraine and ongoing pandemic-related disruptions. In 2022, economic value generated amounted to DKK 97bn and tax contribution amounted to DKK 39bn.

Our employment contribution amounted to a total of approximately 970,000 jobs. This accounts for the employment generated not only through beverage production but also through purchasing materials, and selling and serving Carlsberg beverages.

## CREATING JOBS

We directly employed nearly 31,000 people in our majority-owned businesses around the world on 31 December 2022.

Our business also indirectly created an estimated 938,000 more jobs – equivalent to 30 for each Carlsberg employee – for people involved in supplying our raw ingredients and packaging, delivering our beer to customers and serving it to consumers (see below)<sup>1, 2</sup>.

In 2022, the number of indirect jobs created fell, in line with the reduction in the number of our direct employees following the exclusion of the Russian business from continuing operations and the revised 2022 reporting scope (see page 99).

Many of the indirect jobs we create around the world sustain people in rural areas, where employment opportunities can be scarce, particularly through our agricultural suppliers and at breweries outside cities.

≈ 31,000  
DIRECT EMPLOYEES

≈ 938,000  
INDIRECT JOBS  
CREATED

## INDIRECT JOBS CREATED



8.1.1

See SDG index, page 85.



**1** Carlsberg employee creates an additional...



**4** jobs in the supply chain providing ingredients, packaging and transport for our beers (5 in 2021)



**12** jobs in hospitality serving our beers in bars and restaurants (9 in 2021)



**14** jobs in retail selling our beer in stores (14 in 2021)

<sup>1</sup> Estimation by research consultancy Europe Economics. See page 139 for details of the methodology used.

<sup>2</sup> All figures have been rounded. Includes segments "not allocated" and "non-beverage".

**ADDING ECONOMIC VALUE**

Our business and our beer generate substantial revenues for governments, support public services and stimulate economic growth.

We operate in Western Europe, Asia and Central & Eastern Europe. Across these three regions, our tax payments support target 8.1 of the UN Sustainable Development Goals – to sustain per capita economic growth.

In 2022, the Carlsberg Group generated DKK 97bn in total economic value<sup>3</sup> (see right).

We also supported business in related sectors – such as agriculture, retail and hospitality – that generated additional government revenues.

**TOTAL TAX CONTRIBUTION**

Our *Tax Policy* is based on good corporate practice. It sets out our commitment to fulfil our global tax obligations and contribute to the societies in which we do business.

Our total tax contribution amounted to DKK 39bn in 2022, including:

- Taxes paid directly, including corporate income tax, social

security taxes and other taxes (including environmental taxes)

- Taxes collected on behalf of governments, including personal income taxes paid on behalf of our employees, VAT and excise duties.

We recognise that shareholders and other stakeholders want to see transparency from multinational corporations on tax policies and tax payments. Since 2021, we have provided a regional breakdown of our tax contribution and effective tax rate excluding group adjustment entities (see right). The total Group effective tax rate was 17.9% globally this year. We expect to continue this practice until EU Directive 2021/2101 on public country-by-country tax reporting is enacted.

**METHODOLOGY AND DEFINITIONS**

See page 136 for our tax contribution principles and page 139 for details of the methodology we use to calculate our economic contribution and definitions of the categories used.

<sup>3</sup> Economic value generated is a combination of gross revenue, other income, financial income and income included in special items.  
<sup>4</sup> 2022 data within PwC's assurance scope. See previous ESG and sustainability reports for assurance of data published in prior years.



	WESTERN EUROPE	ASIA	CENTRAL & EASTERN EUROPE
<b>Tax paid (DKKm)</b>	<b>22,128</b>	<b>12,195</b>	<b>4,829</b>
VAT	5,742	2,079	1,380
Employee taxes	1,440	406	317
Corporate income tax	732	1,133	238
Excise duties	13,735	8,367	2,653
Other taxes and duties	479	211	242
<b>Proportion of total tax paid</b>	<b>57%</b>	<b>31%</b>	<b>12%</b>
<b>Proportion of total revenue</b>	<b>50%</b>	<b>34%</b>	<b>17%</b>
<b>Effective tax rate (ETR)</b>	<b>14%</b>	<b>23%</b>	<b>19%</b>

Note: All figures have been rounded.

**ECONOMIC VALUE GENERATED (DKKBN)**

**97**

Operating costs  
DKK 50bn

Employee wages  
DKK 9bn

Providers of capital  
DKK 1bn

Taxes borne and excise duties collected\*  
DKK 29bn

Economic value retained  
DKK 8bn

**TOTAL TAX CONTRIBUTION (DKKBN)**

**39**

VAT  
DKK 9bn

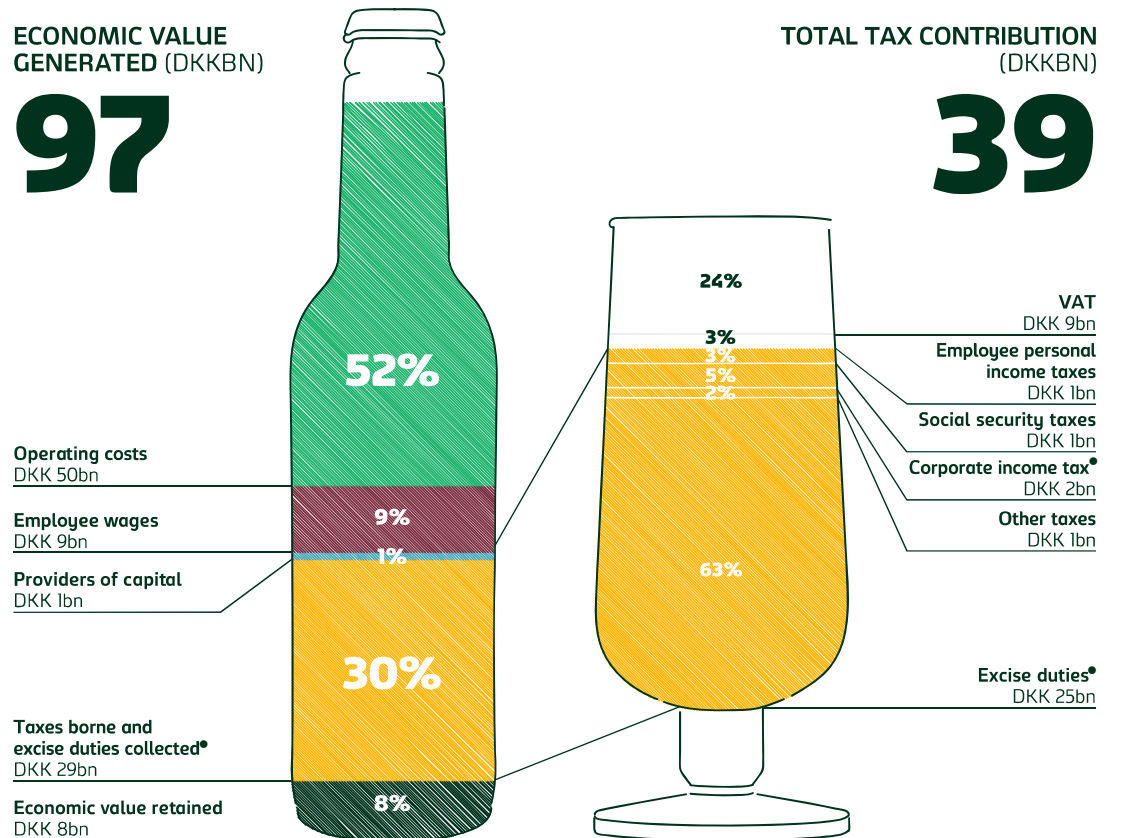
Employee personal income taxes  
DKK 1bn

Social security taxes  
DKK 1bn

Corporate income tax\*  
DKK 2bn

Other taxes  
DKK 1bn

Excise duties\*  
DKK 25bn



# GOVERNANCE AND TRANSPARENCY

Strong sustainability governance and engagement are key to achieving our new Together Towards ZERO and Beyond ambitions.

We regularly review relevant risks and priority issues to ensure we focus resources where we can have most impact. We report our contributions to the UN Sustainable Development Goals and Global Compact, disclose detailed ESG data and seek external assurance for key performance indicators.

## RECOGNITION FOR OUR ESG APPROACH AND PERFORMANCE



**CDP:** A for climate and A for water, based on this year's CDP disclosure.



**FTSE4Good:** Included in the FTSE4Good Index of companies demonstrating strong ESG practices.



**MSCI:** AAA ESG rating – among the top-ranked in the beverage industry.



**FINANCIAL TIMES-STATISTA LIST:** Included in list of Europe's Climate Leaders 2022.

## ESG GOVERNANCE

Our Executive Committee (ExCom) is responsible for ESG and our Together Towards ZERO and Beyond (TTZAB) ESG programme, providing strategic guidance and approval for policies, targets and relevant resources. Ultimate accountability for ESG at Carlsberg,

including our TTZAB programme, lies with our CEO and ExCom.

In 2022, we appointed a new ESG Steering Committee to strengthen governance at the global level of our company by involving a wider range of leaders from across the business in our decision-making on ESG topics. The Steering Committee will

help us overcome implementation challenges, capitalise on opportunities related to our enhanced ESG programme, and accelerate our response to growing stakeholder expectations and regulatory requirements. The specific ownership of our ESG areas is still firmly anchored in the relevant functions with each of the area

owners, who will continue to be responsible for the implementation of specific actions and programmes to ensure delivery of our targets.

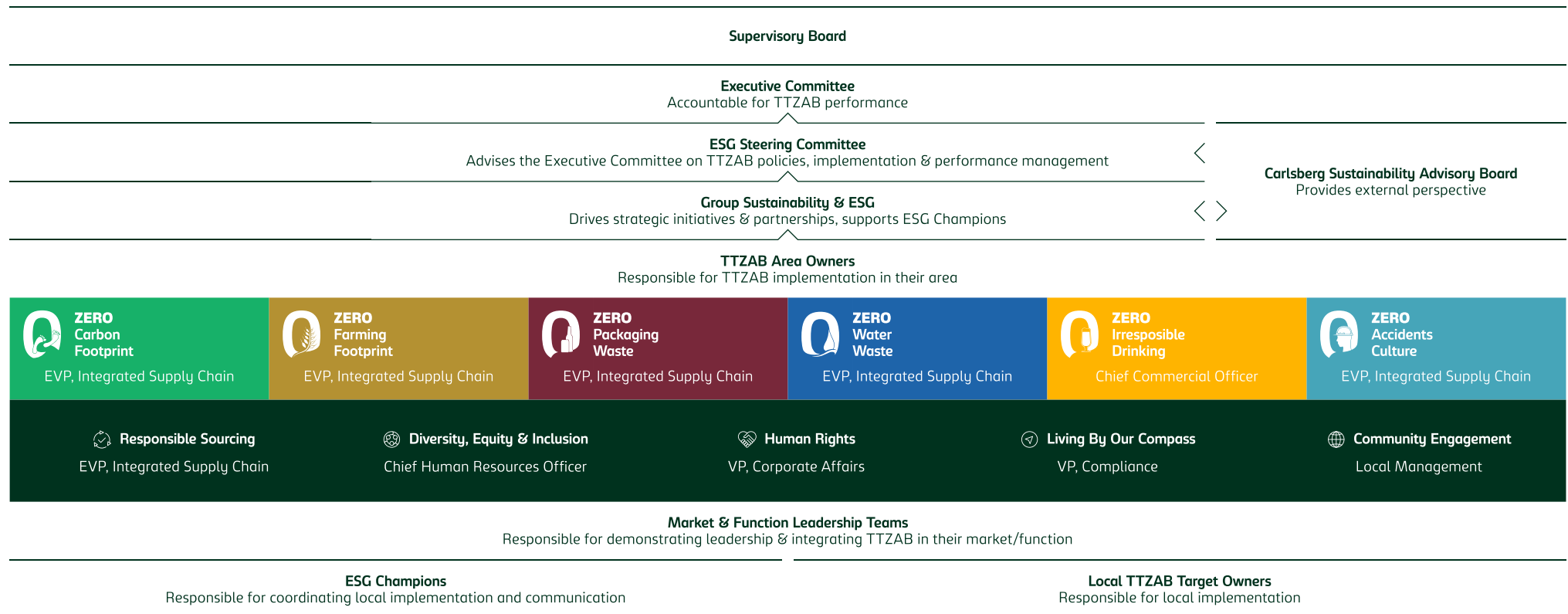
External experts from the Carlsberg Sustainability Advisory Board (CSAB) – expanded in 2022 to include both external and Supervisory Board members – also inform our approach

by engaging with our CEO and the new ESG Steering Committee (see page 79).

### INTEGRATING TTZAB ACROSS OUR BUSINESS

We embed ESG throughout the business by integrating responsibility for specific areas of our TTZAB programme and management of

## HOW WE MANAGE TOGETHER TOWARDS ZERO AND BEYOND (TTZAB)



ESG topics into core business functions.

As a core element of our SAIL'27 strategy, TTZAB is discussed at both ExCom and Extended Leadership Team (ELT) meetings. On a monthly basis, key performance indicators (KPIs) are tracked and reviewed against our Group nine-grid of priorities, which steers our progress towards SAIL'27.

Designated TTZAB owners drive the programme's implementation and progress towards our 2030 and 2040 targets within their respective areas of responsibility. They are supported by local target owners and leadership teams in our markets and relevant functions. Our Group

Sustainability & ESG team drives strategic programmes and partnerships, and supports the ESG Champions who help to coordinate local initiatives across the business.

**ENGAGING OUR PEOPLE ON TTZAB**

We aim to get our people involved and engaged in the TTZAB programme – at global and local level – to help us drive progress towards our targets.

This year, we engaged with employees globally through the launch of TTZAB, communicating the new programme through various internal channels, holding engagement sessions and providing introductory training on specific

TTZAB focus areas and related ESG topics through our online academy. In August 2022, our CEO announced and endorsed the new programme at a global townhall meeting, and he speaks directly with employees on TTZAB through regular townhall meetings, videos and Q&A sessions.

The global TTZAB launch was complemented with activities to engage employees and local stakeholders in specific markets. In Malaysia, for example, the Managing Director and TTZAB target owners introduced what the programme means specifically in that market to get people excited about the journey ahead. Employees also got involved in initiatives to support our TTZAB commitment to

Community Engagement in 2022 (see page 71).

**REVIEWING AND DRIVING PERFORMANCE**

KPIs for our TTZAB programme are reported monthly to our integrated supply chain management team and ExCom, and at least twice a year to our Supervisory Board. Both ExCom and the Supervisory Board review overall ESG performance and progress towards our TTZAB targets at least once a year, in addition to reviewing relevant investments and projects in line with normal business procedures.

Executive remuneration is linked to progress on TTZAB and ESG, with 20% of our Executive Board bonus linked to KPIs such as carbon

emissions, water efficiency, responsible drinking (through promotion of alcohol-free brews), and diversity, equity and inclusion. The Remuneration Committee reviews Executive Board performance against these KPIs four times a year.

Remuneration is also linked to performance on TTZAB targets for other roles throughout our business – including executives, brewery managers, facilities managers, and innovation, marketing and sustainability teams. Relevant KPIs range from energy and water savings to stakeholder engagement, brand engagement and reputation.

In 2022, the Audit Committee also considered various topics related to

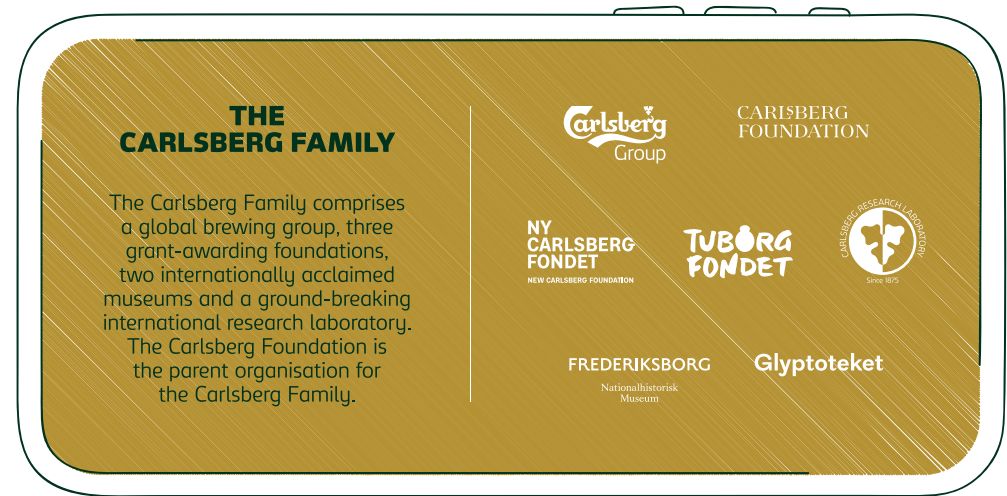
**ROLE OF THE CARLSBERG FOUNDATION**

The Carlsberg Foundation is our principal shareholder, with the controlling interest in the Carlsberg Group. The Foundation receives almost 30% of Carlsberg Group dividends and distributes this revenue to benefit society.

The chair of the Carlsberg Foundation's Board of Directors, Majken Schultz, also serves as deputy chair of the Carlsberg Group's governing body, the Supervisory Board, and this year became a member of the Carlsberg Sustainability Advisory Board (see page 79). At our Annual General Meeting in March 2022, the Foundation reduced its representation on the Supervisory Board from five members to three in line with good corporate governance. The Carlsberg Foundation actively

supports Carlsberg's ESG programme and believes that running a company with a long-term, sustainable perspective safeguards long-term value creation for shareholders and other stakeholders.

The Carlsberg Foundation supports the Carlsberg Research Laboratory and Denmark's Museum of National History. Furthermore, it supports the work of the two other grant-awarding institutions - the Tuborg Foundation and the New Carlsberg Foundation, which supports the art museum Ny Carlsberg Glyptotek. In 2022, the three foundations collectively distributed DKK 1.03bn to support ground-breaking scientific research, the arts and civil society. For more on its impact, see page 73.



ESG performance, assurance and reporting against the criteria set out in the EU Taxonomy. These topics were discussed this year and will form part of the Committee’s remit from now on.

Achieving our ambitions requires partnership with others who share our vision for a more sustainable brewing industry. We include ESG criteria in supplier selection processes, collaborate with customers for collective impact, and develop targeted partnerships to address specific issues and opportunities for positive impact, such as regenerative agriculture, responsible drinking and water replenishment.

**MANAGING RISK**

The Supervisory Board is ultimately responsible for risk management and has appointed the Audit Committee to act on its behalf in monitoring the effectiveness of the Group’s risk management. ExCom is responsible for reviewing the overall risk exposure associated with the Group’s activities and ensuring that appropriate actions are taken.

We map the impact of each risk on our operating profit or brand/image against the likelihood of that risk materialising. An annual review of mid- and long-term risks is conducted at Group level. We integrate ESG risks into the assessment and management of business risks, primarily in relation to legal and regulatory compliance,

regulatory changes and consumer action in the event of non-performance on ESG matters. This includes a focus on longer-term ESG challenges, including climate-related financial risks (see page 19).

In 2022, we revised our risk management process to develop a more structured approach to identifying and mitigating medium- and long-term risks, as well as improving the ownership of risk management actions within the business. The revised approach includes clear risk-handling plans, mitigation actions, monitoring and response. We have also established an annual risk management process for each function, monitored and followed up on by responsible owners annually.

Risk analysis informs our assessment of the most material ESG issues for our business and our stakeholders (see page 83). We are also closely examining the impact of climate and other ESG risks on our business as we deliver our TTZAB programme and SAIL’27 strategy.

The long-term risk assessment carried out in 2022 covered commercial and competition, governance, consumer, macroeconomic and geopolitical environment, reputation, supply chain and climate risks. The table

**TOP ESG RISKS IDENTIFIED IN 2022**

Priority	Area of impact
Increased regulation of the alcohol industry	Rising local government interventions in areas such as consumer health and alcohol consumption, including increasing alcohol taxes, and regulating trade practices and permissibility of promotions/visibility
Increased ESG scrutiny	Enhanced reporting requirements, stricter norms, higher incidences of fines or lawsuits, stakeholder actions and increasing consumer expectations
Physical operational risk due to climate change	Water scarcity, quality  Brewery or supply chain disruption caused by storms/flooding
Input cost volatility	Climate-related supply constraints, including droughts, and risks to suppliers

**CARLSBERG SUSTAINABILITY ADVISORY BOARD (CSAB): EXTERNAL MEMBERS**

- **Magdi Batato**, Executive Vice President and Head of Operations, Nestlé, and member of the Carlsberg Group’s Supervisory Board.
- **Knut Haanaes**, Professor and Lundin Sustainability Chair, Institute for Management Development (IMD), Lausanne.
- **Acacia Leroy**, Innovation Design Lead, Deloitte SEA Greenhouse.
- **Frank van Ooijen**, Independent sustainability and corporate communications consultant.
- **Majken Schultz**, Professor of Management and Organisation Studies, Copenhagen Business School, Chair of the Carlsberg Foundation’s Board of Directors, and Deputy Chair of the Carlsberg Group’s Supervisory Board.

(left) shows the top ESG-related risks that have been identified.

**INTEGRATING EXTERNAL PERSPECTIVES**

The Carlsberg Sustainability Advisory Board (CSAB), chaired by our CEO, provides valuable external perspectives on ESG, with external experts on the CSAB engaging directly with our ExCom and ESG Steering Committee. Its remit is to:

- Help us stay in sync with external expectations and remain true to our

founder’s aspirations through our purpose, strategy and actions.

- Deliver strategic advice, critical review and feedback.
- Act as a sparring partner for our executive leadership team.

In 2022, the CSAB was expanded and now comprises five external stakeholders, including two members of our Supervisory Board (see page 79).

The senior director of our Group Sustainability & ESG function facilitates CSAB meetings. In 2022, the CSAB met twice. Key focus areas included the launch of TTZAB, the role of ESG investing in tackling climate change, and the war in Ukraine and our decision to deconsolidate the Russian business.

### REPORTING IN LINE WITH RECOGNISED FRAMEWORKS

We look for opportunities to align our reporting with recognised frameworks and meet growing demand for specific disclosures from investors, regulators and other stakeholders. These include:

- **CDP:** We share detailed information on our carbon and water management and performance through our CDP disclosures.
- **Danish Financial Statements Act:** This report serves as our statutory statement on corporate social responsibility in accordance with sections 99a, 99b and 99d of the Danish Financial Statements Act.
- **EU Taxonomy:** We voluntarily disclose our eligibility against the EU Taxonomy objectives on circular economy and biodiversity for the first time this year (see our *Annual Report*). We now have a programme for EU Taxonomy reporting to ensure we have comprehensive and timely processes, internal controls and

systems in place to measure alignment (see right).

- **Greenhouse Gas Protocol:** We report emissions in accordance with the Greenhouse Gas Protocol for Scope 1, 2 and 3. Notably, our logistics emissions are not included in our Scope 1 brewery emissions but are included in our value chain emissions. See Indicator Definitions (page 101) and Value Chain Carbon Emissions Methodology (page 138) for more details.
- **Task Force on Climate-related Financial Disclosures (TCFD):** We report in line with TCFD recommendations (see page 19 and our *Annual Report*).
- **UN Global Compact:** This report serves as the basis for our 2022 Communication on Progress to the UN Global Compact, which will be submitted in March 2023 in line with new requirements, and we include an index of reporting against the Global Compact's ten principles on page 90.
- **UN Sustainable Development Goals (SDGs):** We signpost relevant SDGs throughout this report and include a summary of our contributions to specific SDG targets on page 85.

## GETTING READY TO REPORT AGAINST THE EU TAXONOMY

The EU Taxonomy Regulation establishes a common language for sustainable finance and aims to provide a basis for the EU to achieve its climate and environmental objectives, as outlined, for example, in the Paris Agreement. The regulation helps investors identify environmentally sustainable economic activities and promotes the transition to a low-carbon and climate-resilient economy.

### THE TAXONOMY FRAMEWORK

The Regulation establishes a framework for disclosure of information on eligibility and alignment across a large number of economic activities. This framework establishes technical screening criteria for sustainability along six so-called environmental objectives. Technical screening criteria for two out of the six environmental objectives, namely climate change mitigation and climate change adaptation, have been adopted. The criteria for the remaining four objectives (below) are expected to be adopted by the EU in 2023:

- Sustainable use and protection of water and marine resources
- Pollution prevention and control
- Transition to a circular economy
- Protection and restoration of biodiversity and ecosystems

An economic activity is considered eligible when it is described in the delegated acts, irrespective of whether that activity meets any of the technical screening criteria. In turn, the concept of alignment refers to the extent to which an economic activity substantially contributes to one or more of the environmental objectives, does no significant harm to any of the other objectives, and is carried out in compliance with minimum social safeguards, all based upon the screening criteria.

### CARLSBERG'S ELIGIBILITY

Carlsberg's main economic activity, "Manufacture of Beverages", is assumed to contribute to both the biodiversity and circular economy environmental objectives. These have not been adopted (yet) and as such there is no requirement for Carlsberg to report eligibility for the financial year 2022. Carlsberg has decided to voluntarily report on eligibility for 2022. For these details, see our *Annual Report*.

### TTZAB AND THE EU TAXONOMY

The Taxonomy environmental objectives in scope for Carlsberg are to a large extent aligned with our ESG programme TTZAB, with its ambitious targets for sustainable agriculture, reducing packaging waste, eliminating carbon emissions, and reducing water consumption (see page 7). Consequently, TTZAB is anticipated to positively impact on our Taxonomy reporting, increasing our aligned activities over time.



## ENGAGING WITH STAKEHOLDERS

Dialogue with stakeholders helps us understand what matters most to them and to respond accordingly. This is essential for fostering open communications and building trust. Input from stakeholders helps us define and prioritise our sustainability efforts, and our partnerships enable us to drive progress Together Towards ZERO and Beyond.

### How we engage with stakeholders on sustainability topics

STAKEHOLDER	HOW WE ENGAGE	TOPICS OF INTEREST	OUR RESPONSE
<b>Consumers</b>	Marketing campaigns Social media Local websites Responsible drinking initiatives Purpose-driven brand campaigns	Consumer demand for healthier and more sustainable options is growing. More sustainable packaging is the most tangible aspect of sustainable products for consumers.	We are developing products and packaging that are more sustainable for the planet through our TTZAB targets on carbon (see page 10), water (see page 36) and packaging waste (see page 29). We use the power of our brands to engage consumers on key issues such as climate change, water scarcity, responsible drinking, and diversity, equity and inclusion.  Carlsberg is a signatory to the World Federation of Advertisers' (WFA) Planet Pledge – a global commitment to making marketing teams a force for positive change both internally and by inspiring consumers to act. Our new Environmental Claims guidance clarifies our approach to responsible marketing claims, building on advice from the WFA, the EU and Denmark's Consumer Ombudsman.  Our marketing also includes a strong focus on enjoying our beer responsibly. We include product labelling to support responsible choices, and we are continuing to extend our range of no- and low-alcohol brews. Our companies and brands also connect directly with consumers through our local partnerships to promote responsible drinking (see page 46).
<b>Customers</b>	Sales and marketing channels Responsible drinking partnerships Customers' supplier requirements, questionnaires and audits Customer satisfaction surveys	Customers want to know how we can help them reduce risks in their supply chain, achieve their own sustainability goals, and meet consumer demand for healthier and more sustainable options.	In addition to our own response to consumers (see above), we partner with customers, including festivals, bars and retailers, on campaigns such as Global Beer Responsibility Day (see page 48).  By doing business responsibly, we help customers reduce risks in their supply chain. We also work with customers on shared sustainability initiatives. By developing and testing sustainable innovations, we encourage customer demand and market uptake of new solutions. For example, customers and consumers across eight markets in Western Europe tested our prototype Fibre Bottle in 2022 (see page 30).
<b>Employees</b>	Regular employee pulse surveys Ongoing dialogue and feedback Twice-yearly performance reviews Formal consultation with employee representatives	Feedback from our most recent pulse survey in 2021 showed that overall employee satisfaction and pride in Carlsberg remained high. Despite an improvement in scores related to the support and opportunities we provide to employees, the survey showed we could still do more in these areas. Through other engagement channels, employees also showed significant interest in diversity, equity and inclusion.	In 2022, we continued to offer locally tailored wellbeing initiatives and to empower employees to adopt flexible working practices (see page 55). We also maintained a strong focus on diversity, equity and inclusion (see page 58). Our next pulse survey is planned for 2023.
<b>Industry</b>	Engagement through industry organisations such as the International Alliance for Responsible Drinking (IARD), the Worldwide Brewing Alliance (WBA), Brewers of Europe, Beverage Industry Environmental Roundtable (BIER), the World Federation of Advertisers (WFA), the Sustainable Agriculture Initiative Platform (SAI Platform), AIM-Progress and national trade associations Engagement with peers on initiatives to drive sustainable innovation	Working together with industry peers amplifies the reach and impact of efforts to address challenges and support responsible consumption. We work together to share non-competitive information related to ESG frameworks, interpret legislation, and protect the reputation of brewing companies and the wider drinks industry.	In 2022, we joined SAI Platform to work with our peers and others along the agriculture value chain to develop common standards and best practice for regenerative agriculture.  We joined the Sedex platform and the AIM-Progress forum to support our responsible sourcing programme and drive improvements in shared supply chains (see page 69).  We narrowly missed our Brewers of Europe commitment to include ingredients and nutritional information on all beers sold in the EU by 2022. To follow up on our IARD commitments on influencer marketing, we conducted a social media audit to ensure that all our channels complied with these standards (see page 47).

STAKEHOLDER	HOW WE ENGAGE	TOPICS OF INTEREST	OUR RESPONSE
<b>Investors</b>	Annual Report Annual General Meeting Investor roadshows Individual meetings Investor questionnaires	Investors want to know that we meet ESG requirements, and have been showing increasing interest in ESG. They want to understand how investments in ESG and our TTZAB programme will support our business goals and help deliver sustainable financial returns in the long term.	We respond to investor questionnaires to demonstrate compliance with ESG requirements, and we explain the business case for our TTZAB programme. Our strong scores in ratings such as CDP and MSCI demonstrate that our business is low-risk for investors.  See our <i>Annual Report</i> and investor information at <a href="https://carlsberggroup.com/investor-relations">carlsberggroup.com/investor-relations</a> .
<b>Journalists</b>	Individual meetings and calls Direct engagement by e-mail	Journalists' questions give us an insight into wider trends across and beyond the industry. Recently, their interest has been on a wide range of ESG issues, with a particular focus on carbon emissions, renewable energy and human rights due diligence.	We always seek constructive and fact-based dialogue with the media and value open discussion with journalists on detailed subjects to ensure that our approach and communication are well understood and accurately reflected.
<b>Suppliers</b>	Supplier & Licensee Code of Conduct Integrated quality audits Partnerships to support progress on our TTZAB targets	Suppliers want to know what our priorities are in relation to ESG so they can play their part in helping us achieve our targets and meet our ESG criteria to secure access to business opportunities with us.	We communicate our requirements on ESG through our Supplier & Licensee Code of Conduct, and we monitor compliance through audits.  We continue to work closely with suppliers to cut value chain carbon emissions by encouraging them to switch to renewable electricity, report their carbon emissions and set science-based targets (see page 16) as well as introducing new sustainability criteria for our logistics providers. Engaging suppliers is also critical for our new TTZAB focus areas on farming (see page 22) and packaging (see page 29).
<b>Sustainability experts</b>	Carlsberg Sustainability Advisory Board (CSAB) Consultations and partnerships with NGOs and issue experts	Sustainability experts want to understand how our TTZAB programme aligns with our business strategy and responds to global challenges. They want to see ambitious targets, strong performance and transparent reporting. Sustainability experts also provide valuable input into the development of our TTZAB programme and our approach to specific issues across all our 11 focus areas.	In 2022, we strengthened the CSAB with two new members (see page 79) and gathered insight and input from the CSAB on the launch of TTZAB.  We are working with the Science Based Targets initiative (SBTi), and we are members of RE100 (an initiative led by the Climate Group in partnership with CDP). As part of the World Economic Forum's Alliance of CEO Climate Leaders, we issued a joint message ahead of the COP27 climate conference encouraging all business leaders to set science-based targets to halve global emissions by 2030 and reach net zero by 2050 at the latest.  We have strategic partnerships with WWF, and work with leading advisors such as the Carbon Trust, South Pole and others to support our alignment with the latest high-quality carbon removal guidance. In 2022, we also worked with global experts at Shift to conduct our latest assessment of salient human rights issues.
<b>Policymakers and regulators</b>	Engagement through trade associations, such as the IARD, the WBA and industry organisations in our local markets  High-level public events, such as the World Economic Forum's annual Davos meeting and other conferences where government officials are present	Governments are interested to learn about the jobs we create locally and our contributions to the societies in which we operate. They also want to understand how we support their strategies on sustainability and public health.	Our Public & Government Affairs Manual sets out clear guidance on how we engage with governments globally.  We have controls in place to ensure compliance with applicable laws (see page 64). We report our total economic contribution, including taxes generated and jobs created, every year (see page 74).  We also engage with governments indirectly on sustainability and public health issues through industry associations such as the IARD and the WBA.
<b>Communities</b>	Local community engagement programmes	Communities near our operations want us to be a responsible neighbour and to understand how we can support them.	Our business creates jobs through the people we employ directly and many more in related sectors, including in rural communities with few employment opportunities (see page 74). Our majority shareholder, the Carlsberg Foundation, uses the dividends it generates for wide societal benefit by supporting scientific research, arts, culture and civil society (see pages 71 and 78). We introduced the specific focus area of Community Engagement as part of our TTZAB programme, and supported communities through a range of local initiatives (see page 71).

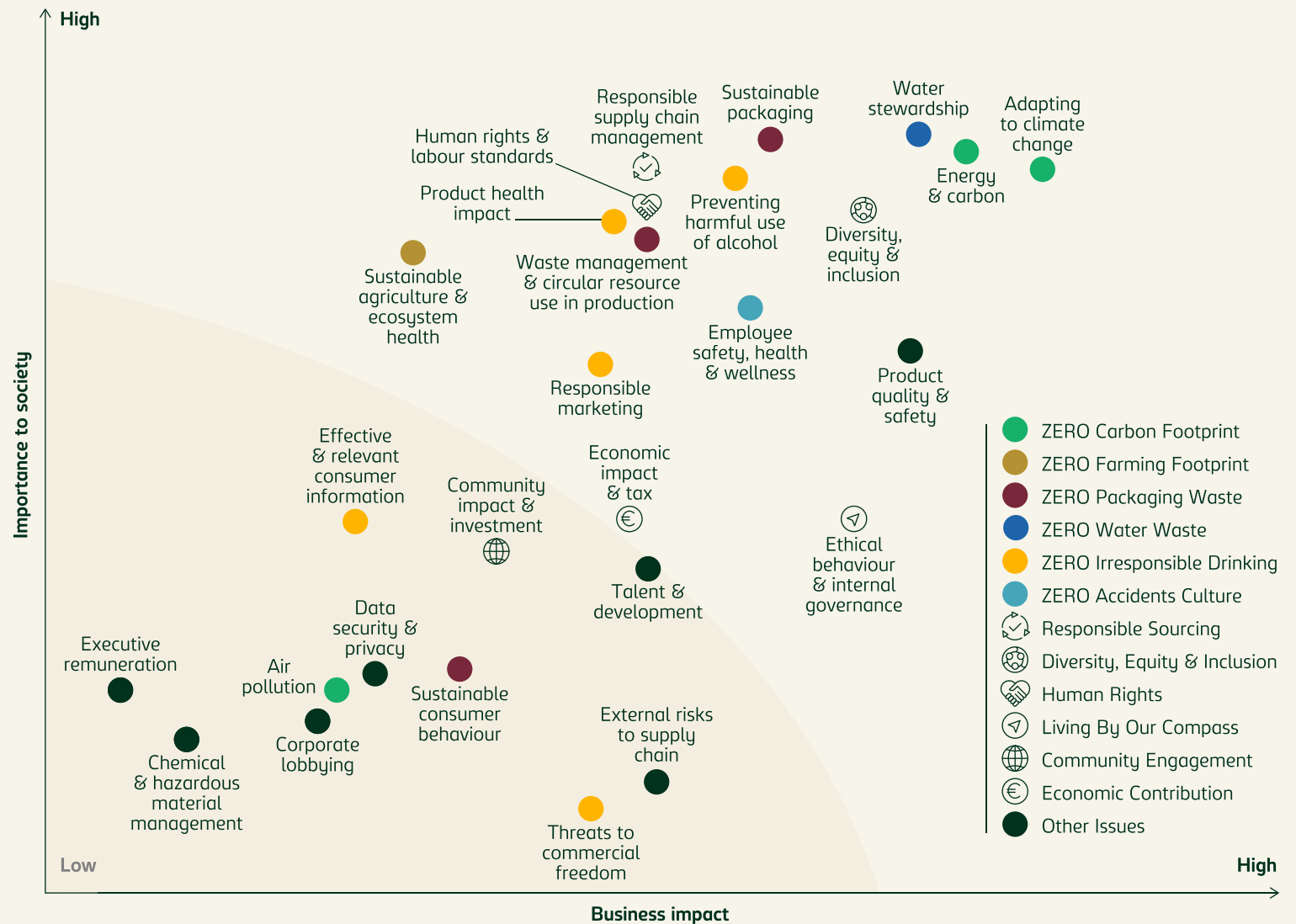
## IDENTIFYING OUR PRIORITIES

We aim to ensure that our work remains focused on the topics that are most significant to our business and our stakeholders – our most material issues. Our TTZAB programme was informed by our latest materiality assessment, conducted in 2020 with support from experts at GlobeScan. This helped us to identify where we can have the biggest economic, environmental and social impact. The findings are shown in the materiality matrix (see right).

To conduct the assessment, we started with an analysis of existing data and research from both within our business and externally. Combined with insights from a digital listening platform, this research informed an initial list of issues that was used to support focused consultation to gain internal and external perspectives. We then conducted a survey of employees representing a range of geographies and functions, and in-depth interviews with external stakeholders representing groups including non-governmental and inter-governmental organisations, industry associations, investors, customers, suppliers and academics.

We will refresh our materiality assessment in 2023 and use the insights gathered to inform our implementation of Together Towards ZERO and Beyond.

### MATERIALITY MATRIX



## ISSUE DEFINITIONS

ISSUE	DEFINITION
<b>Responsible supply chain management</b>	High social (including workers) and environmental standards for sourcing and partners. Supporting partners to develop strategies for improvement (on environmental and social impact) and monitoring their performance through audits etc.
<b>Human rights and labour standards</b>	Ensuring human rights are protected within own operations and throughout the value chain, including implementing governance and systems to identify, address and remedy issues. Eliminating all forms of forced and compulsory labour, child labour and human trafficking. Upholding the right of freedom of association and collective bargaining.
<b>Sustainable packaging</b>	Reducing, reusing, recycling and rethinking packaging materials, as well as developing sustainable packaging innovations and advocating for circular packaging systems (e.g. return schemes).
<b>Preventing harmful use of alcohol</b>	Working with others (e.g. policymakers, partners within and beyond the industry, and customers) to raise awareness, promote moderation, tackle misuse and reduce alcohol-related harm in society (e.g. violence and abuse, underage drinking, drink-driving).
<b>Responsible marketing</b>	Marketing alcoholic and non-alcoholic products in a responsible manner.
<b>Effective and relevant consumer information</b>	Providing the information consumers need to make informed decisions about their consumption of alcohol. Transparency through provision of consumer information on ingredients and nutrition (e.g. sugar, calories).
<b>Sustainable consumer behaviour</b>	Labelling and transparency about environmental impacts on products and in communications. Encouraging consumers to adopt more sustainable behaviours (e.g. recycling, use of returnable bottles) or buying the more environmentally friendly product (e.g. with the lowest CO <sub>2</sub> impact or free from plastic).
<b>Product quality and safety</b>	Ensuring traceability, safety and consistency of products through high-quality standards and procedures. Including clear identifications of use of GMOs and pesticides.
<b>Energy and carbon</b>	Reducing carbon emissions and improving energy efficiency across own operations, distribution and full value chain, including investing in clean low-carbon technologies and renewable energy.
<b>Adapting to climate change</b>	Developing strategies to protect against climate-related hazards (e.g. water shortages, increases in pests and diseases, temperature and rain impacts on crops) and natural disasters – within own operations, supply chain and communities. Examples include investment in climate-resilient and disease-resistant hops or strengthening of finance options for farmers.
<b>Waste management and circular resource use in production</b>	Designing out waste and pollution, while keeping products and resources in use within own operations and supply chain. Responsible disposal of any waste, including discharge of brewery effluent, spent grains and treatment of wastewater.
<b>Sustainable agriculture and ecosystem health</b>	Protecting the health of ecosystems associated with the production of raw materials and across operations, including soil health, biodiversity and land use. Understanding opportunities to have a positive impact on the health of ecosystems.
<b>Water stewardship</b>	Good water stewardship and governance approach across own operations and supply chain, especially in water-scarce regions, including advocating with governments, partners and peers. Supporting farmers to be good water stewards.

ISSUE	DEFINITION
<b>Chemical and hazardous material management</b>	Appropriate systems and procedures for the continuous reduction of chemicals in products and processes, and appropriate disposal of chemical and hazardous waste.
<b>Ethical behaviour and internal governance</b>	Ethical approach to the legal and regulatory environment, including ensuring compliance with all local laws. Good governance systems, rules and procedures, including executive oversight. Rigorous action against corruption, misconduct, negligence and anti-competitive behaviour.
<b>Executive remuneration</b>	Fair, appropriate and transparent system of executive compensation, including pay and incentives.
<b>Corporate lobbying</b>	Responsible lobbying practices that are fully aligned with the company's sustainability commitments and strategy.
<b>Data security and privacy</b>	Protecting the right to privacy and ensuring security of data for customers, consumers, employees and business partners. Including via social media and other communication outlets.
<b>Diversity, equity and inclusion</b>	A workplace where all employees are treated fairly and without discrimination. Working towards equality internally (gender, age, race, sexual orientation, disabilities, faith etc.) and advocacy with partners and externally.
<b>Employee safety, health and wellness</b>	A safe working environment across all operations. Protecting the health and wellbeing of employees, including work/life balance, stress and mental health, flexible working and support for physical health issues.
<b>Talent and development</b>	Good pay, benefits and services to workforce (e.g. health insurance, retirement contributions). Maximising employee engagement and talent recruitment/retention through career development, training and opportunities.
<b>Community impact and investment</b>	Creating shared economic value with communities and other stakeholders in all operational locations (e.g. through access to opportunities, investment, programmes and partnerships to support development, inclusion and environmental protection).
<b>Economic impact and tax</b>	Positive economic impact across all markets through job creation/security, investment and supporting the wider value chain. Fulfilling taxation responsibilities to the economies in which we operate.
<b>Product health impact</b>	Supporting healthy consumption of alcohol and other beverages, including innovation on healthier products (e.g. low-/no-alcohol or low-sugar options). Working with others to raise awareness and tackle the potential impacts of alcohol on mental and physical health (e.g. obesity, NCDs, alcohol during pregnancy).
<b>Threats to commercial freedom</b>	Potential threats to the business (e.g. linked to the COVID-19 pandemic) through demonisation of alcohol via government restrictions, illicit trade in alcohol or threats to the wider hospitality industries.
<b>External risks to supply chain</b>	Challenges to the supply chain, including raw material availability, as well as import and export restrictions caused by trade wars or pandemic-related labour and travel restrictions.
<b>Air pollution</b>	Reduction in pollutants with negative impact on public health, particularly nitrogen oxide and sulphur dioxide.

## CONTRIBUTING TO THE UN SUSTAINABLE DEVELOPMENT GOALS

With the launch of our enhanced ESG programme, Together Towards ZERO and Beyond (TTZAB), in August 2022, we conducted a new assessment as to where and how our new programme supports and/or will support the UN Sustainable Development Goals (SDGs) as we proceed to implement TTZAB and take actions in line with our targets towards 2030 and 2040. Our new assessment maps our 11 TTZAB focus areas – representing the underlying targets and our ongoing or planned

activities within these areas – and our economic contribution against the SDGs at indicator level (see column three in the tables below).

Mappings have been carried out to the indicator level in order to make sharper conclusions as to which SDG targets we support. Accordingly, we arrive at a revised set of supported SDGs, now including additional targets under SDGs 2, 14 and 15, and

revised sets of targets under the remaining SDGs that were supported with the preceding Together Towards ZERO (TTZ) programme and which continue to be supported with our new TTZAB programme. For concrete examples of how we are supporting the indicators, we point to those that are described in the body text and those that are highlighted as case stories in the preceding chapters.

SDG	TARGET	INDICATOR	FOCUS AREA(S)	PAGE
	<p><b>2.3</b> By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment.</p>	<p><b>2.3.1</b> Volume of production per labour unit by classes of farming/pastoral/forestry enterprise size.</p>	ZERO Farming Footprint	22
	<p><b>2.4</b> By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality.</p>	<p><b>2.4.1</b> Proportion of agricultural area under productive and sustainable agriculture.</p>	ZERO Farming Footprint	22
	<p><b>3.5</b> Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol.</p>	<p><b>3.5.2</b> Alcohol per capita consumption (aged 15 years and older) within a calendar year in litres of pure alcohol.</p>	ZERO Irresponsible Drinking	43
	<p><b>3.6</b> By 2020, halve the number of global deaths and injuries from road traffic accidents.</p>	<p><b>3.6.1</b> Death rate due to road traffic injuries.</p>	ZERO Irresponsible Drinking	43
	<p><b>3.9</b> By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.</p>	<p><b>3.9.1</b> Mortality rate attributed to household and ambient air pollution.</p> <p><b>3.9.2</b> Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe Water, Sanitation and Hygiene for All (WASH) services).</p>	ZERO Carbon Footprint	10
			ZERO Water Waste	36






SDG	TARGET	INDICATOR	FOCUS AREA(S)	PAGE
	<p><b>5.5</b> Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life.</p>	<p><b>5.5.2</b> Proportion of women in managerial positions.</p>	<p>Promoting Diversity, Equity and Inclusion</p>	<p>58</p>
	<p><b>6.1</b> By 2030, achieve universal and equitable access to safe and affordable drinking water for all.</p> <p><b>6.2</b> By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations.</p> <p><b>6.3</b> By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.</p> <p><b>6.4</b> By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity.</p> <p><b>6.5</b> By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate.</p> <p><b>6.6</b> By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes.</p>	<p><b>6.1.1</b> Proportion of population using safely managed drinking water services.</p> <p><b>6.2.1</b> Proportion of population using (a) safely managed sanitation services and (b) a hand-washing facility with soap and water.</p> <p><b>6.3.1</b> Proportion of domestic and industrial wastewater flows safely treated.</p> <p><b>6.3.2</b> Proportion of bodies of water with good ambient water quality.</p> <p><b>6.4.1</b> Change in water-use efficiency over time.</p> <p><b>6.4.2</b> Level of water stress: freshwater withdrawal as a proportion of available freshwater resources.</p> <p><b>6.5.1</b> Degree of integrated water resources management.</p> <p><b>6.6.1</b> Change in the extent of water-related ecosystems over time.</p>	<p>ZERO Water Waste</p> <p>ZERO Water Waste</p> <p>ZERO Water Waste</p> <p>ZERO Water Waste</p> <p>ZERO Water Waste</p> <p>ZERO Water Waste</p> <p>ZERO Water Waste</p>	<p>36</p> <p>36</p> <p>36</p> <p>36</p> <p>36</p> <p>36</p> <p>36</p>

SDG	TARGET	INDICATOR	FOCUS AREA(S)	PAGE	
	7.2 By 2030, increase substantially the share of renewable energy in the global energy mix.	7.2.1 Renewable energy share in the total final energy consumption.	ZERO Carbon Footprint	10	
	7.3 By 2030, double the global rate of improvement in energy efficiency.	7.3.1 Energy intensity measured in terms of primary energy and GDP.	ZERO Carbon Footprint	10	
	7.b By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States, and land-locked developing countries, in accordance with their respective programmes of support.	7.b.1 Installed renewable energy-generating capacity in developing countries (in watts per capita).	ZERO Carbon Footprint	10	
	8.1 Sustain per capita economic growth in accordance with national circumstances and, in particular, at least 7 per cent gross domestic product growth per annum in the least developed countries.	8.1.1 Annual growth rate of real GDP per capita.	Contributing To Economies <sup>1</sup>	74	
	8.5 By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value.	8.5.1 Average hourly earnings of female and male employees, by occupation, age and persons with disabilities.	Promoting Diversity, Equity and Inclusion Respecting Human Rights	58 67	
	8.7 Take immediate and effective measures to eradicate forced labour, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labour, including recruitment and use of child soldiers, and by 2025 end child labour in all its forms.	8.7.1 Proportion and number of children aged 5-17 years engaged in child labour, by sex and age.	Respecting Human Rights Sourcing Responsibly	67 69	
	8.8 Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment.	8.8.1 Fatal and non-fatal occupational injuries per 100,000 workers, by sex and migrant status.	ZERO Accidents Culture Respecting Human Rights Sourcing Responsibly	50 67 69	
		8.8.2 Level of national compliance with labour rights (freedom of association and collective bargaining) based on International Labour Organization (ILO) textual sources and national legislation, by sex and migrant status.	Respecting Human Rights Sourcing Responsibly	67 69	

<sup>1</sup> Economic value generated is a combination of gross revenue, other income, financial income and income included in special items.

SDG	TARGET	INDICATOR	FOCUS AREA(S)	PAGE
	<p><b>10.2</b> By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status.</p>	<p><b>10.2.1</b> Proportion of people living below 50 per cent of median income, by sex, age and persons with disabilities.</p>	<p>Promoting Diversity, Equity and Inclusion Respecting Human Rights</p>	<p>58 67</p>
	<p><b>10.3</b> Ensure equal opportunity and reduce inequalities of outcome, including by eliminating discriminatory laws, policies and practices and promoting appropriate legislation, policies and action in this regard.</p>	<p><b>10.3.1</b> Proportion of population reporting having personally felt discriminated against or harassed within the previous 12 months on the basis of a ground of discrimination prohibited under international human rights law.</p>	<p>Promoting Diversity, Equity and Inclusion Respecting Human Rights Sourcing Responsibly</p>	<p>58 67 69</p>
	<p><b>12.2</b> By 2030, achieve the sustainable management and efficient use of natural resources.</p>	<p><b>12.2.1</b> Material footprint, material footprint per capita, and material footprint per GDP.</p>	<p>ZERO Carbon Footprint ZERO Farming Footprint ZERO Packaging Waste ZERO Water Waste</p>	<p>10 22 29 36</p>
	<p><b>12.2.2</b> Domestic material consumption, domestic material consumption per capita, and domestic material consumption per GDP.</p>	<p><b>12.2.2</b> Domestic material consumption, domestic material consumption per capita, and domestic material consumption per GDP.</p>	<p>ZERO Carbon Footprint ZERO Farming Footprint ZERO Packaging Waste ZERO Water Waste</p>	<p>10 22 29 36</p>
	<p><b>12.5</b> By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.</p>	<p><b>12.5.1</b> National recycling rate, tons of material recycled.</p>	<p>ZERO Packaging Waste</p>	<p>29</p>
	<p><b>12.6</b> Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle.</p>	<p><b>12.6.1</b> Number of companies publishing sustainability reports.</p>	<p>Through our TTZAB programme, we are implementing and enhancing our sustainable practices, and report progress on our TTZAB focus areas annually. Through our ESG programme and reporting, we encourage other companies to also adopt sustainable practices - both indirectly through our example and disclosures, and directly through, for instance, our supplier and partner engagements as we implement TTZAB. We consider our ESG programme as a whole and our ESG reports as our contributions to this target and indicator.</p>	<p>7</p>
	<p><b>12.a</b> Support developing countries to strengthen their scientific and technological capacity to move towards more sustainable patterns of consumption and production.</p>	<p><b>12.a.1</b> Installed renewable energy-generating capacity in developing countries (in watts per capita).</p>	<p>ZERO Carbon Footprint</p>	<p>10</p>



SDG	TARGET	INDICATOR	FOCUS AREA(S)	PAGE
	<b>13.1</b> Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries.	<b>13.1.1</b> Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population.	ZERO Carbon Footprint ZERO Farming Footprint ZERO Water Waste	10 22 36
	<b>14.1</b> By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution.	<b>14.1.1</b> (a) Index of coastal eutrophication; and (b) plastic debris density.	ZERO Farming Footprint ZERO Packaging Waste	22 29
	<b>15.3</b> By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world. <b>15.5</b> Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species.	<b>15.3.1</b> Proportion of land that is degraded over total land area. <b>15.5.1</b> Red List Index.	ZERO Farming Footprint ZERO Farming Footprint ZERO Water Waste	22 22 36
	<b>16.5</b> Substantially reduce corruption and bribery in all their forms. <b>16.b</b> Promote and enforce non-discriminatory laws and policies for sustainable development.	<b>16.5.2</b> Proportion of businesses that had at least one contact with a public official and that paid a bribe to a public official, or were asked for a bribe by those public officials during the previous 12 months. <b>16.b.1</b> Proportion of population reporting having personally felt discriminated against or harassed in the previous 12 months on the basis of a ground of discrimination prohibited under international human rights law.	Living By Our Compass Promoting Diversity, Equity and Inclusion Respecting Human Rights Sourcing Responsibly	64 58 67 69
	<b>17.17</b> Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships.	<b>17.17.1</b> Amount in United States dollars committed to public-private partnerships for infrastructure.	ZERO Carbon Footprint ZERO Water Waste Engaging Communities	10 36 71

## UN GLOBAL COMPACT INDEX

We support the UN Global Compact and its ten principles, and this report serves as the basis for our 2022 Communication on Progress to the UN Global Compact, which will be submitted in March 2023 in line with new requirements. The index below sets out where to find information on our approach and performance in relation to each principle.



United Nations  
Global Compact

### GLOBAL COMPACT PRINCIPLE

**Principle 1:** Businesses should support and respect the protection of internationally proclaimed human rights

**Principle 2:** Businesses should make sure that they are not complicit in human rights abuses

**Principle 3:** Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining

**Principle 4:** Businesses should uphold the elimination of all forms of forced and compulsory labour

**Principle 5:** Businesses should uphold the effective abolition of child labour

**Principle 6:** Businesses should uphold the elimination of discrimination in respect of employment and occupation

**Principle 7:** Businesses should support a precautionary approach to environmental challenges

**Principle 8:** Businesses should undertake initiatives to promote greater environmental responsibility

**Principle 9:** Businesses should encourage the development and diffusion of environmentally friendly technologies

**Principle 10:** Businesses should work against corruption in all its forms, including extortion and bribery

### OUR APPROACH

Respecting Human Rights, page 67.

Respecting Human Rights, page 67.

Sourcing Responsibly, page 69.

Promoting Diversity, Equity and Inclusion, page 58.

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Living By Our Compass, page 64.

# UPHOLDING DATA ETHICS

The Carlsberg Group is committed to earning and keeping the trust of our consumers, business partners, employees and other stakeholders as we strive to brew for a better today and tomorrow.

As explained in our corporate Data Ethics Policy, which can be found on [carlsberggroup.com](https://carlsberggroup.com), one way in which we live up to this commitment – within a globalised and digitised business environment – is to only use personal data consistently with our four ethical pillars:

## 1. Keeping data safe

We take measures to ensure that any data shared and used – whether personal or business data – is protected through robust security features, effective processes for their implementation, and reliable IT applications and providers. Through these actions, we protect the digital wellbeing of our many stakeholders by safeguarding all of their data in our care, including in our information systems, from the exponentially growing risks of illegal and damaging conduct by individuals or groups acting either carelessly or intentionally for financial gain or other pernicious reasons.

## 2. Complying with data protection laws

The Carlsberg Group has effective and meaningful privacy and data protection standards in place, not only to comply with the many evolving regulatory requirements across our global markets, but also to promote the trust of those countries' citizens, leaders and business communities. To comply with local requirements, the Carlsberg Group directs that all personal data, however and wherever used in our business operations, must be handled in strict accordance with the global privacy and data protection standards set out in our internal policies.

## 3. Using data respectfully

The Carlsberg Group respects individual privacy as part of our greater commitment to ethical business conduct and stakeholder dignity. For our workers, our commitment to a fair, respectful, safe and non-discriminatory workplace includes the lawful, fair and limited handling of their data as part of our working relationship. When collecting and using consumer data to better produce and market our products, the Carlsberg Group does so ethically, for example by not acting in any way to promote drinking to minors, by enabling consumers' autonomy over how their data is processed through transparent privacy notifications, and by reducing the privacy impact of digital technologies that we use.

## 4. Embedding data ethics in the organisation

Our Data Ethics Policy is approved by the Carlsberg Group executive management team. In addition to top management being committed to prioritising data ethics, it is also embedded throughout the organisation in various policies and manuals, which detail Carlsberg's high standards of data ethics and integrity. These ethical standards are promoted and safeguarded by subject matter experts in various relevant functions, such as Group Integrated Information Technology and Group Legal & Compliance, and are embedded throughout the organisation through, for example, regular employee training, communications and evolving best practices.

# DATA SUMMARY TABLE

ENERGY, CARBON AND WATER	2015	2016	2017	2018	2019	2020	2021	2022*
<b>General production figures</b>								
Number of reporting sites	110	92	85	85	82	88	96	84
Beer production (million hl)	105.4	100.9	97.9	102.2	101.4	100.2	109.4	90.2
Soft drinks production (million hl)	13.9	14.3	14.2	15.6	16.1	16.5	18.7	17.9
Total production of beer and soft drinks (million hl)*	119.3	115.2	112.1	117.8	117.5	116.7	128.1	108.1
Malting (kt)	547.2	311.5	301.3	314.1	307.5	295.9	296.9	0
<b>Environmental performance data (beer, soft drinks and malt production)</b>								
Total thermal energy consumption (GWh)*	2,943	2,481	2,326	2,341	2,340	2,193	2,374	1566
Total electricity consumption (GWh)*	988	914	869	885	870	857	938	744
Total CO <sub>2</sub> emissions (from direct and indirect fuel consumption) (kt)* (market-based)	945	768	698	701	626	555	595	316
Total CO <sub>2</sub> emissions (from direct and indirect fuel consumption) (kt)* (location-based)		883	802	801	766	727	789	570
Total SO <sub>2</sub> emissions (tonnes)	1,695	815	731	509	446	422	411	400
Total NO <sub>x</sub> emissions (tonnes)	1,562	1,163	1,075	1,027	1,419	1,288	1281	703
Municipal water (million m <sup>3</sup> )	19.7	17.9	17.4	18.7	18.5	17.2	17.9	14.7
Own boreholes (million m <sup>3</sup> )	17.5	17.9	16.7	17.1	15.9	13.2	14.1	9.6
Surface water (million m <sup>3</sup> )	4.3	2.7	2.0	2.2	2.2	3.2	3.1	3.1
Water sold to third parties (million m <sup>3</sup> )	0.3	0.8	0.5	0.5	0.7	0.5	0.4	0.1
Total water use (million m <sup>3</sup> )*	41.2	37.7	35.6	37.5	35.9	33.1	34.6	27.3
Total wastewater discharged (million m <sup>3</sup> )	26.6	24.2	23.0	23.8	23.3	19.5	20.3	15.7
Total water consumption (million m <sup>3</sup> ) <sup>1</sup>	14.6	13.5	12.6	13.7	12.6	13.6	14.3	11.6
<b>Solid waste &amp; by-products</b>								
Incinerated (kt)	8.7	5.7	5.1	9.2	6.0	6.8	6.3	5.5
To sanitary landfill (kt)	68.6	56.9	68.6	60.9	82.5	54.9	57.2	58.8
Special waste (kt)	0.7	1.4	0.7	0.4	1.1	0.6	0.8	1.5
Recycled (kt)	189.2	225.5	222.0	162.6	172.9	219.3	191.3	160.5
Disposed of for land applications (kt)	165.9	127.4	117.4	125.1	115.2	104.0	39.1	40.9
Total solid waste (kt)	433.1	416.9	413.8	358.3	377.6	385.6	294.7	267.2
Brewer's grain and brewer's yeast utilised (kt)	1,348.9	1,265.0	1,236.0	1,372.8	1,501.3	1,464.4	1,569.9	1292.3

<sup>1</sup> Total water consumption = Total water use – Total wastewater discharged.

\* 2022 data excludes Russia; 2015 - 2021 data includes Russia.

• 2022 data within PwC's assurance scope (see PwC's Assurance Report, pages 141 - 143). See previous ESG and sustainability reports for assurance of data published in prior years.

	2015	2016	2017	2018	2019	2020	2021	2022*
<b>Relative figures for beer and soft drinks production</b>								
Thermal energy (kWh/hl)•	21.2	20.0	19.3	18.3	18.0	16.9	16.8	14.5
Electricity (kWh/hl)•	7.8	7.7	7.6	7.3	7.1	7.1	7.1	6.9
Combined energy (thermal and electricity) (kWh/hl)•	29.0	27.7	26.9	25.6	25.1	24.0	23.9	21.4
CO <sub>2</sub> emissions (kg CO <sub>2</sub> /hl)•	7.0	6.3	5.9	5.6	4.9	4.3	4.2	2.9
Water (hl/hl)•	3.4	3.2	3.1	3.1	3.0	2.8	2.7	2.5
<b>Relative figures for malt production</b>								
Thermal energy (kWh/tonne)	692.2	489.3	457.9	436.4	430.7	446.4	473.5	0
Electricity (kWh/tonne)	84.1	73.2	67.1	65.6	64.7	67.8	74.7	0
Combined energy (thermal and electricity) (kWh/tonne)	776.3	562.5	525.0	501.9	495.4	514.1	548.3	0
CO <sub>2</sub> emissions (tonnes CO <sub>2</sub> /tonne)	0.18	0.13	0.12	0.11	0.11	0.11	0.12	0
Water (m <sup>3</sup> /tonne)	2.2	1.6	1.5	1.4	1.3	1.5	1.8	0
<b>Other figures</b>								
Complaints	33	36	32	9	13	16	13	15
Number of ISO 14001-certified sites	74	66	70	76	79	79	79	71
Number of ISO 50001-certified sites	3	4	18	20	20	19	22	12
<b>Water source split</b>								
Municipal water	48%	46%	48%	49%	52%	51%	51%	54%
Own boreholes	42%	47%	46%	45%	42%	39%	40%	35%
Surface water	10%	7%	6%	6%	6%	10%	9%	11%
<b>Wastewater destination</b>								
Public sewer with wastewater treatment	67%	66%	66%	69%	73%	72%	73%	69%
On-site treatment, followed by public sewer without wastewater treatment	3%	2%	2%	1%	0%	0%	0%	0%
On-site treatment, followed by discharge to river/lake	28%	28%	28%	26%	24%	24%	23%	28%
Other	2%	4%	4%	4%	3%	4%	4%	3%
<b>Thermal energy mix</b>								
Natural gas	66.1%	71.9%	69.1%	72.9%	75.4%	76.6%	77.6%	65.9%
Coal	15.6%	7.0%	5.9%	3.5%	1.8%	0.6%	0.6%	1.1%
District heating	6.4%	7.1%	7.6%	7.4%	6.8%	4.3%	3.2%	6.0%
District heating from renewable energy						2.0%	3.0%	3.7%
Heavy fuel	2.8%	3.1%	3.6%	3.0%	3.0%	2.8%	2.6%	4.9%
Renewable energy	6.9%	8.2%	9.8%	11.8%	12.3%	11.4%	9.9%	10.9%
Light fuel	1.2%	1.4%	3.0%	1.4%	0.8%	3.3%	3.1%	5.8%
Other	1.0%	1.3%	1.0%	0%	0%	0%	0%	1.7%

\* 2022 data excludes Russia; 2015-2021 data includes Russia.

• 2022 data within PwC's assurance scope (see PwC's Assurance Report, pages 141-143). See previous ESG and sustainability reports for assurance of data published in prior years.

	2015	2016	2017	2018	2019	2020	2021	2022*
<b>Packaging mix</b>								
Cans	26.6%	27.4%	28.6%	29.9%	30.6%	32.4%	33.1%	33.2%
RGB	33.7%	31.5%	29.8%	28%	29.2%	27.0%	25.8%	31.2%
NRGB	9.2%	9.5%	11.6%	12.3%	11.9%	13.2%	14.2%	12.1%
PET	23.0%	23.0%	20.8%	20.3%	19.8%	22.0%	21.1%	15.9%
Kegs	6.4%	7.6%	7.8%	7.7%	6.8%	4.4%	4.6%	5.9%
Bulk	1.0%	0.9%	1.2%	1.4%	1.4%	0.7%	0.6%	1.3%
Other	0.1%	0.1%	0.2%	0.4%	0.4%	0.3%	0.6%	0.4%
<b>Emissions from HFC-based refrigerants</b>								
Total CO <sub>2</sub> emissions from refrigerants (kt CO <sub>2</sub> )*	14.9	9.8	6.8	2.9	12.3	8.7	5.3	6.5
<b>Together Towards ZERO brewery target</b>								
Scope 1 – Absolute CO <sub>2</sub> emissions (excl. Logistics) (kt CO <sub>2</sub> )*					436	415	450	274
Scope 2 – Absolute CO <sub>2</sub> emissions. Market-based. (kt CO <sub>2</sub> )*					202	148	150	49
Scope 1+2 – Absolute emissions (Together Towards ZERO 2015 baseline) (kt CO <sub>2</sub> )*	846	777	704	704	638	563	600	323
<b>Renewable electricity</b>								
Percentage of electricity from renewable sources*	41	43	45	46	56	64	65	92
<b>Sites using coal</b>								
Number of sites using coal*	31	17	12	6	5	2	1	1
<b>Cooling</b>								
% low - climate - impact cooling				88%	93%	97%	97%	98%
<b>Together Towards ZERO beer-in-hand (value chain) target***</b>								
Total value chain emissions – Absolute CO <sub>2</sub> e emissions (kt CO <sub>2</sub> e)	7,141				6,766			
Total value chain emissions – Relative CO <sub>2</sub> e emissions (kg CO <sub>2</sub> e/hl)	60.8				56.4			
Agriculture & Processing (GHG Protocol**** Scope 3 category: 1. Purchased goods and services; and Scope 1, 2, 3 of owned malt plants)	23%				25%			
Breweries (GHG Protocol: Scope 1, Scope 2 market-based, and Scope 3 categories: 1. Purchased goods and services 3. Fuel & energy related activities, 5. Waste generated in operations)	16%				13%			
Packaging (incl. end-of-life treatment) (GHG Protocol Scope 3 categories: 1. Purchased goods and services, 12. End-of-life treatment of sold products)	38%				41%			
Transportation & Distribution (GHG Protocol Scope 3 categories: 4. Upstream transportation and distribution, 6. Business travel (aviation), 9. Downstream transportation and distribution)	13%				12%			
Cooling (GHG Protocol Scope 3 category: 9. Downstream transportation and distribution)	10%				9%			

\* 2022 data excludes Russia; 2015 - 2021 data includes Russia.

• 2022 data within PwC's assurance scope (see PwC's Assurance Report, pages 141 - 143). See previous ESG and sustainability reports for assurance of data published in prior years.

\*\*\* Methodology on page 138.

\*\*\*\* All Greenhouse Gas Protocol categories are quantified by Carlsberg, but not all are part of the value chain target.

Please see the annual CDP climate assessment for the remaining categories (<25% of total impact) not part of the value chain target.

## HEALTH AND SAFETY

	2015	2016	2017	2018	2019	2020	2021	2022*
<b>Figures for Production***</b>								
Number of lost-time accidents*	114	105	73	59	53	52	52	55
Lost-time accident rate*	6.2	7.0	5.1	4.5	4.1	4.1	4.0	5.2
<b>Figures for Logistics***</b>								
Number of lost-time accidents*	140	109	62	48	40	27	76	83
Lost-time accident rate*	15.5	13.8	8.2	7.5	6.3	4.4	10.9	15.9
<b>Figures for Sales &amp; Marketing***</b>								
Number of lost-time accidents*	52	95	43	58	46	36	37	8
Lost-time accident rate*	3.3	6.2	2.5	3.5	2.7	2.2	2.3	0.7
<b>Figures for Administration***</b>								
Number of lost-time accidents*	6	2	5	4	7	1	3	1
Lost-time accident rate*	1.4	0.6	1.4	1.2	2.0	0.3	0.9	0.4
<b>Figures for the Group***</b>								
Number of lost-time accidents*	312	311	183	169	146	116	168	147
Lost-time accident rate*	6.6	7.4	4.3	4.3	3.7	3.0	4.3	4.8
Fatalities (Carlsberg Group employees on and off site, contractors and members of the public on site)	5	5	1	3	0	1	2	0
Number of lost-time accidents, contractors*				42	54	39	40	30
Number of lost-time accidents, members of the public*				0	0	0	0	0
<b>Lost-time accidents – department split</b>								
Percentage in Production	37	34	40	35	34	45	31	37
Percentage in Logistics	45	35	34	28	35	23	45	57
Percentage in Sales & Marketing and Administration	19	31	26	37	32	32	24	6

\* 2022 data excludes Russia; 2015–2021 data includes Russia.

• 2022 data within PwC's assurance scope (see PwC's Assurance Report, pages 141–143). See previous ESG and sustainability reports for assurance of data published in prior years.

\*\*\* Carlsberg Group employees.

**RESPONSIBLE DRINKING AND MARKETING COMMUNICATION**

	2015	2016	2017	2018	2019	2020	2021	2022*
Percentage of companies implementing responsible drinking initiatives	78	75	90	76	97	71	69	94
Percentage of fermented produced volume carrying responsible drinking guiding symbols and/or equivalent text	54	85	97	96	99			
Percentage of fermented produced volume that carry legal age-restriction symbol or equivalent text*						50	53	40
Percentage of fermented produced volume that lists nutritional information*				65	65	67	67	60
Percentage of fermented produced volume that lists ingredient information*				85	90	99	99	98
Number of responsible drinking campaigns	239	194	248	159	162	81	83	123

**LIVING BY OUR COMPASS**

	2015	2016	2017	2018	2019	2020	2021	2022
Total number of employees trained in the Code of Ethics & Conduct		4,336	34,500	2,911	4,700	4,511	12,485	6359
Number of incidents reported through our Speak Up system	87	55	53	95	168	180**	157	157

\* 2022 data excludes Russia; 2015-2021 data includes Russia.

• 2022 data within PwC's assurance scope (see PwC's Assurance Report, pages 141 - 143). See previous ESG and sustainability reports for assurance of data published in prior years.

\*\* Restated.



## LABOUR, HUMAN RIGHTS, DIVERSITY, EQUITY AND INCLUSION

	2015	2016	2017	2018	2019	2020	2021	2022*
Total workforce (FTE continuing operations****)	47,464	42,062	41,430	40,837	41,248	40,010	39,375	30,835
% women in senior leadership roles*						27.7	27.8	28.3
<b>Percentage of employees by employment contract</b>								
Permanent employees	88	86	89	86	87	89	89	87
Temporary employees	12	14	11	14	13	11	11	13
<b>Percentage of employees by employment type</b>								
Full-time	98	93	93	94	91	93	93	91
Part-time	2	7	7	6	9	7	7	9
<b>Percentage of employees by employment category</b>								
Total presidents + top managers	1.5	1.5	1.4	1.8	1.9	2	2	2
Total managers	12.3	12.6	13.2	13.5	14	13	13	14
Total specialists	39.9	36.7	36.9	38.5	39	36	37	40
Total workers	46.3	49.2	48.5	46.2	46	49	48	44
<b>Percentage of employees by gender</b>								
Men	72	69	71	68	67	68	69	69
Women	28	31	29	32	33	32	31	31
<b>Percentage of senior leadership roles level by gender</b>								
Men	78	77	76	75	73	72	72	72
Women	22	23	24	25	27	28	28	28
<b>Percentage of employees by age</b>								
Younger than 18	0.19	0.11	0.13	0.02	0.03	0.02	0.03	0.05
19-29	22	23	25	23	19	18	16	17
30-39	33	33	35	35	38	39	39	38
40-49	29	27	25	26	26	26	26	26
50 or older	16	17	15	16	17	17	19	19

\* 2022 data excludes Russia; 2015-2021 data includes Russia.

\*\*\*\* FTE data from Carlsberg Group Annual Report 2022.

• 2022 data within PwC's assurance scope (see PwC's Assurance Report, pages 141-143).

	2015	2016	2017	2018	2019	2020	2021	2022*
<b>Employee turnover</b>								
Employee turnover percentage	19	21	24	19	17	17	18	16
<b>Employee turnover percentage by age</b>								
Younger than 18	-	-	-	-	-	-	-	-
19-29	32	31	31	36	35	33	31	33
30-39	33	34	38	35	37	36	38	34
40-49	20	20	18	16	15	16	16	16
50 or older	15	15	15	13	13	14	15	17
<b>Employee turnover percentage by gender</b>								
Men	71	69	63	70	73	69	70	70
Women	29	31	37	30	27	31	30	30
<b>Hours of training per employee</b>								
Average for the Group	15	15	15	16	18	15	13	16
<b>Collective bargaining</b>								
Percentage of employees covered by collective bargaining agreements	73	74	74	72	72	67	65	58
<b>RESPONSIBLE SOURCING</b>								
	2015	2016	2017	2018	2019	2020	2021	2022
Number of integrated quality audits	171	182	154	166	197	53	121	147

\* 2022 data excludes Russia; 2015-2021 data includes Russia.

# REPORTING PROCESS AND SCOPE

## REPORTING APPROACH AND CRITERIA

### SCOPE OF THE ESG REPORTING

This report covers the relevant and significant social, ethical and environmental issues for the financial year 1 January to 31 December 2022. It gives our stakeholders an overview of our performance in these areas, complementing our Annual Report, which primarily covers our financial and economic performance.

For many years, we have been using the standards of Global Reporting Initiative (GRI) as guidance for our sustainability work. For this 2022 report, the GRI G4 Sustainability Reporting Guidelines were applied in preparing the underlying data and framing our reporting principles; however, the Carlsberg Group does not apply GRI-specific disclosures in accordance with the standard.

We routinely analyse global megatrends, take part in industry initiatives and assess the activities of our competitors. We also receive recommendations on our sustainability activities and reporting from our assurance provider, PwC.

This ensures that we fully understand the key issues and keep up to date.

The report focuses on the topics that we consider most important to our business and society. It is based on a range of inputs from our stakeholders, including, but not restricted to, the materiality assessment updated in 2020 in cooperation with GlobeScan, water risk assessments undertaken with WWF, the UN's Sustainable Development Goals (SDGs), carbon footprinting analyses undertaken with the Carbon Trust and guidance from the Carlsberg Sustainability Advisory Board.

### BOUNDARY SETTING

Entities included in this report's performance data include majority-owned subsidiaries, which are defined as: companies with continued operations, that the Carlsberg Group directly or indirectly owns, in which it controls more than 50% of the voting rights or that it otherwise controls.

Joint ventures and companies over which the Carlsberg Group does not

have the opportunity to exercise management control are not covered. However, we work with our partners routinely to ensure ongoing focus on sustainability issues. If a majority-owned entity is acquired during the financial year, it will be included in the following year's report.

## COMMENTS ON BOUNDARY SETTING

### Excluded from 2022 reporting scope:

The companies and sites named below are excluded from the reporting scope 2022 because on 28 March Carlsberg announced our decision to seek a full divestment of our Russian business following Russia's invasion of Ukraine. These entities are therefore no longer considered continued operations.

Russia:

- Company: Baltika Breweries
- Site: Baltika Brewery St. Petersburg
- Site: Baltika Don Brewery Rostov-Na-Don
- Site: Baltika Khabarovsk

- Site: Baltika Novosibirsk
- Site: Baltika Samara
- Site: Baltika Tula Brewery Tula
- Site: Yarpivo Brewery Yaroslavl
- Site: Yarpivo Voronezh
- Company: Hoppy Union
- Site: Malt Plant Yaroslavl
- Site: Malt Plant Tula

The company and site named considered an associate and is excluded from the reporting scope 2022. This is a result of the Group's influence on the business operations in Nepal currently being restricted through actions that hamper our right of decision-making and insight into the business.

Nepal:

- Company: Gorkha Brewery
- Site: Gorkha Brewery

The site named below is excluded from the reporting scope 2022 because the site has been closed:

UK:

- Site: London Fields Warburton St

## ENSURING DATA QUALITY

In gathering information about our sustainability performance, we applied the widely used principles of balance, clarity, accuracy, reliability, timeliness and comparability. Please find additional information on each of the topics below:

### BALANCE

We are committed to communicating honestly and openly about our performance, both when it has improved and when it has not. Our aim is to provide our stakeholders with sufficient information about our company for them to form their own judgements concerning the Carlsberg Group's position and role in the societies in which we operate.

### CLARITY

We strive to make our ESG reporting accessible and easy to read for anyone, but we are always open to feedback about the way we communicate on our material issues.

### ACCURACY AND RELIABILITY

Since 2009, our dedicated ESG reporting system has helped us collect data from local sites and consolidate this at Group level. Every

year, we have improved the indicator definitions for our performance indicators in order to help our entities report accurately and reliably.

However, it is a challenge to obtain a complete and fully aligned overview of all our data that, at the same time, takes into account local procedures for data gathering. For this reason, we are continuously working on improving data accuracy.

Since 2009, we have been using an international provider of sustainability software solutions to systematise and collect our data. This gives us a higher degree of control over the data-gathering process, helps local companies compare data year on year, and enables instant consistency checks during the data-gathering phase. As well as the system, we use internal data management systems to collect information such as employee headcounts. An additional tool used to improve our sustainability data is the Carlsberg Operational Manual (COM), which sets out details regarding processes and best practices.

PwC has been appointed to provide independent assurance regarding selected social, environmental and safety indicators. In each section of the report, we indicate which data

has been assured. For further details, see pages 92-98.

#### **TIMELINESS**

Internally, we report our sustainability data with varying degrees of frequency, depending on the nature of the data. Where necessary, we revise the reporting frequency in order to strike the right balance between obtaining the correct data and observing appropriate time intervals for reporting on them. Annual data gathering and external reporting are aligned with financial data collection, following the calendar year.

#### **COMPARABILITY**

We have restated the 2021 data and baseline data used for our targets to exclude Russia, to enable like-for-like comparison with 2022 and assess progress in the body text, bar charts and illustrations in this report, unless noted otherwise. All detailed performance data published previously, for the years up to and including 2021, continues to include Russia, and is maintained in the data tables on pages 92-98. We include eight-year data in these data tables.

On pages 101-133, we have included definitions for all indicators that we use to track and report on our ESG progress, and have noted which of these indicators were

subject to independent assurance by PwC in 2022.

#### **TARGETS**

We communicate through actions and targets:

- One-year short-term actions towards ZERO and Beyond
- 2022 targets
- 2030 targets
- 2040 targets

These have been developed by each of the area owners in cooperation with Group Sustainability & ESG and may be adjusted following significant changes in the business, such as major acquisitions and divestments. As far as possible, we include such changes by applying scenario planning to our target-setting process.

# INDICATOR DEFINITIONS

In the following, we explain the indicators we use to measure our sustainability performance. We define them and clarify their scope and any relevant assumptions we have made when collecting data globally.

INDICATOR NAME	INDICATOR DEFINITION	UNIT
<b>General production figures</b>		
Number of reporting sites	<p><b>Definition:</b> Beer and soft drinks production sites as defined on page 3.</p> <p><b>Scope:</b> All majority-owned companies and production sites as defined on page 3.</p>	#
Beer production (million hl)	<p><b>Definition:</b> Volume of fermented products produced.</p> <p>Production output that has passed through the production process on the company's own premises is included. Output is defined as approved packaged product to warehouse, plus volume of bulk beer.</p> <p><b>Scope:</b> Beer and soft drinks production sites as defined on page 3.</p>	Million hl
Soft drinks production (million hl)	<p><b>Definition:</b> Volume of non-fermented products produced.</p> <p>Production output that has passed through the production process on the company's own premises is included. Output is defined as approved packaged product to warehouse, plus volume of bulk non-fermented products.</p> <p><b>Scope:</b> Beer and soft drinks production sites as defined on page 3.</p>	Million hl

INDICATOR NAME	INDICATOR DEFINITION	UNIT
<b>General production figures</b>		
Total production of beer and soft drinks <sup>•</sup>	<p><b>Definition:</b> Volume of fermented and non-fermented products produced.</p> <p>Production output that has passed through the production process on the company's own premises is included. Output is defined as approved packaged product to warehouse, plus volume of bulk beer and volume of bulk non-fermented products.</p> <p><b>Scope:</b> Beer and soft drinks production sites as defined on page 3.</p>	Million hl
Malting (kt)	<p><b>Definition:</b> The total weight in tonnes of malt leaving the malting plant in the year.</p> <p><b>Scope:</b> Malting sites as defined on page 3.</p>	kt
<b>Environmental performance data (beer, soft drinks and malt production)</b>		
Total thermal energy consumption <sup>•</sup>	<p><b>Definition:</b> Total thermal energy consumption used for beer, soft drinks and malt production.</p> <p>Thermal energy originates from different energy sources such as light fuel oil, heavy fuel oil, natural gas, town gas, biogas from wastewater treatment plants, coal, biomass, district heating, grid electricity and biogas with renewable certificates (documented and traceable).</p> <p><b>Scope:</b> Beer, soft drinks and malt production sites as defined on page 3. Consumption for non-production site activities is included.</p> <p><b>Assumptions:</b> Thermal energy sold to third parties, fuels for on-site logistics and fuels used for electricity production from on-site combined heat and power (CHP) plants are excluded from "Total thermal energy consumption". Losses from CHPs are included.</p>	GWh

<sup>•</sup> 2022 data within PwC's assurance scope (see PwC's Assurance Report, pages 141-143). See previous ESG and sustainability reports for assurance of data published in prior years.

INDICATOR NAME	INDICATOR DEFINITION	UNIT
<b>Environmental performance data (beer, soft drinks and malt production)</b>		
Total electricity consumption*	<p><b>Definition:</b> Total electricity consumption for beer, soft drinks and malt production.</p> <p>Electricity originates from different sources such as renewable electricity generated on site (solar, wind), electricity bought with renewable certificates (e.g. Guarantees Of Origin, Renewable Energy Guarantees of Origin – REGO), electricity from grid and electricity from on-site combined heat and power (CHP) plants.</p> <p><b>Scope:</b> Beer, soft drinks and malt production sites as defined on page 3. Consumption for non-production site activities is included.</p> <p><b>Assumptions:</b> Electricity sold to third parties is excluded from “Total electricity consumption”.</p>	GWh
Total CO <sub>2</sub> emissions (from direct and indirect fuel consumption) (kt)* (market-based)	<p><b>Definition:</b> Total fossil fuel carbon dioxide emissions (direct and indirect).</p> <p>Direct emissions are from the combustion of fuels for thermal energy and indirect emissions are from purchased electricity and district heating.</p> <p>CO<sub>2</sub> emission factors used for fossil fuels and electricity are in accordance with the 2006 Intergovernmental Panel on Climate Change Guidelines for National Greenhouse Gas Inventories and International Energy Agency statistics. Electricity grid emission factors from IEA are updated annually.</p> <p>Renewable energy types have an emission factor of 0 g CO<sub>2</sub>/KWh.</p> <p>For market-based emissions, an electricity market-specific CO<sub>2</sub> emission factor is used, which is linked to the actual electricity purchased.</p> <p><b>Scope:</b> Beer, soft drinks and malt production sites as defined on page 3.</p> <p><b>Assumptions:</b> CO<sub>2</sub> emissions related to sold thermal energy and electricity are not deducted from “Total CO<sub>2</sub> emissions”.</p>	kt

\* 2022 data within PwC’s assurance scope (see PwC’s Assurance Report, pages 141 - 143). See previous ESG and sustainability reports for assurance of data published in prior years.

INDICATOR NAME	INDICATOR DEFINITION	UNIT
<b>Environmental performance data (beer, soft drinks and malt production)</b>		
Total CO <sub>2</sub> emissions (from direct and indirect fuel consumption) (kt)* (location -based)	<p><b>Definition:</b> Total fossil fuel carbon dioxide emissions (direct and indirect).</p> <p>Direct emissions are from the combustion of fuels for thermal energy and indirect emissions are from purchased electricity and district heating.</p> <p>CO<sub>2</sub> emission factors used for fossil fuels and electricity are in accordance with the 2006 Intergovernmental Panel on Climate Change Guidelines for National Greenhouse Gas Inventories and International Energy Agency statistics. Electricity grid emission factors from IEA are updated annually.</p> <p>Renewable energy types have an emission factor of 0 g CO<sub>2</sub>/KWh.</p> <p>For location-based emissions, a country-specific CO<sub>2</sub> emission factor is used for electricity purchased.</p> <p><b>Scope:</b> Beer, soft drinks and malt production sites as defined on page 3.</p> <p><b>Assumptions:</b> CO<sub>2</sub> emissions related to sold thermal energy and electricity are not deducted from "Total CO<sub>2</sub> emissions".</p>	kt
Total SO <sub>2</sub> emissions (tonnes)	<p><b>Definition:</b> SO<sub>2</sub> emissions from the combustion of fuels on site and from purchased electricity and district heating.</p> <p><b>Scope:</b> Beer, soft drinks and malt production sites as defined on page 3.</p>	t
Total NO <sub>x</sub> emissions (tonnes)	<p><b>Definition:</b> NO<sub>x</sub> emissions from the combustion of fuels on site and from purchased electricity and district heating.</p> <p><b>Scope:</b> Beer, soft drinks and malt production sites as defined on page 3.</p>	t
Municipal water (million m <sup>3</sup> )	<p><b>Definition:</b> The total amount of water received at the site from a municipal water supply,</p> <p><b>Scope:</b> Beer, soft drinks and malt production sites as defined on page 3.</p>	million m <sup>3</sup>

\* 2022 data within PwC's assurance scope (see PwC's Assurance Report, pages 141 - 143). See previous ESG and sustainability reports for assurance of data published in prior years.



INDICATOR NAME	INDICATOR DEFINITION	UNIT
<b>Environmental performance data (beer, soft drinks and malt production)</b>		
Own boreholes (million m <sup>3</sup> )	<p><b>Definition:</b> The total amount of water received at the site from own boreholes.</p> <p><b>Scope:</b> Beer, soft drinks and malt production sites as defined on page 3.</p>	million m <sup>3</sup>
Surface water (million m <sup>3</sup> )	<p><b>Definition:</b> The total amount of water received at the site from surface water.</p> <p><b>Scope:</b> Beer, soft drinks and malt production sites as defined on page 3.</p>	million m <sup>3</sup>
Water sold to third parties (million m <sup>3</sup> )	<p><b>Definition:</b> Total quantity of raw water sold to third parties for use either on site or off site.</p> <p>Third-party use on site: When an external company rents buildings at the brewery and purchases water from the brewery intake. Third-party use off site: When Carlsberg distributes and sells raw water to an external company off site or to the public water supply.</p> <p><b>Scope:</b> Beer, soft drinks and malt production sites as defined on page 3.</p>	million m <sup>3</sup>
Total water use*	<p><b>Definition:</b> Total water use for beer, soft drinks and malt production.</p> <p>Water originates from water withdrawal from own boreholes, the municipal water supply, surface water or other sources.</p> <p><b>Scope:</b> Beer, soft drinks and malt production sites as defined on page 3. Consumption for non-production site activities is included.</p> <p><b>Assumptions:</b> Water intake to brewery sold to third parties is excluded from "Total water use".</p>	million m <sup>3</sup>

\* 2022 data within PwC's assurance scope (see PwC's Assurance Report, pages 141 - 143). See previous ESG and sustainability reports for assurance of data published in prior years.

INDICATOR NAME	INDICATOR DEFINITION	UNIT
<b>Environmental performance data (beer, soft drinks and malt production)</b>		
Total wastewater discharged	<p><b>Definition:</b> Total volume of wastewater leaving the site.</p> <p><b>Scope:</b> Beer, soft drinks and malt production sites as defined on page 3.</p>	million m <sup>3</sup>
Total water consumption	<p><b>Definition:</b> Total water use – Total wastewater discharged.</p> <p><b>Scope:</b> Beer, soft drinks and malt production sites as defined on page 3.</p>	million m <sup>3</sup>
<b>Solid waste &amp; by-products</b>		
Incinerated	<p><b>Definition:</b> Solid waste incinerated in a publicly controlled incinerator off site or on site.</p> <p>List of materials that may be incinerated (not exhaustive): – spent grains, spent yeast, spent kieselguhr, wastewater sludge, general brewery waste.</p> <p><b>Scope:</b> Beer, soft drinks and malt production sites as defined on page 3.</p>	kt
To sanitary landfill	<p><b>Definition:</b> Solid waste disposed of to a publicly controlled sanitary landfill.</p> <p>List of materials that may be disposed of to sanitary landfill (not exhaustive): – spent grains, spent yeast, spent kieselguhr, wastewater sludge, general brewery waste.</p> <p><b>Scope:</b> Beer, soft drinks and malt production sites as defined on page 3.</p>	kt

INDICATOR NAME	INDICATOR DEFINITION	UNIT
<b>Solid waste &amp; by-products</b>		
Special waste	<p><b>Definition:</b> Waste that cannot be sent to incineration/sanitary landfill but instead should be sent for authorised handling, e.g. used oils and chemicals, lamps, batteries etc.</p> <p><b>Scope:</b> Beer, soft drinks and malt production sites as defined on page 3.</p>	kt
Recycled	<p><b>Definition:</b> List of materials that may be recycled at a recycling facility (not exhaustive):</p> <ul style="list-style-type: none"> <li>- Metal</li> <li>- Glass</li> <li>- Paper and plastics</li> <li>- Spent kieselguhr, used for bricks</li> <li>- Spent yeast used as component in other industries</li> </ul> <p>Materials that are used for composting or energy recovery (biofuels or biogas) are not to be considered as recycling.</p> <p><b>Scope:</b> Beer, soft drinks and malt production sites as defined on page 3.</p>	kt
Disposed of for land applications (kt)	<p><b>Definition:</b> Solid waste or by-products disposed of by spreading on farmland, into own or controlled dumps etc.</p> <p>List of materials that may be spread on farmland (not exhaustive):</p> <ul style="list-style-type: none"> <li>- spent grains, spent yeast, spent kieselguhr, wastewater sludge.</li> </ul> <p><b>Scope:</b> Beer, soft drinks and malt production sites as defined on page 3.</p>	kt
Total solid waste	<p><b>Definition:</b> Total sum of solid waste categories: incinerated, sent to sanitary landfill, special waste, recycled, disposed of for land applications.</p> <p><b>Scope:</b> Beer, soft drinks and malt production sites as defined on page 3.</p>	kt

INDICATOR NAME	INDICATOR DEFINITION	UNIT
<b>Solid waste &amp; by-products</b>		
Brewer's grain and brewer's yeast utilised (kt)	<p><b>Definition:</b> Spent grains or surplus yeast utilised for animal fodder or in other products.</p> <p><b>Scope:</b> Beer, soft drinks and malt production sites as defined on page 3.</p>	kt
<b>Relative figures for beer and soft drinks production</b>		
Thermal energy*	<p><b>Definition:</b> Thermal energy needed to produce 1 hectolitre of beer and soft drinks.</p> <p>"Total thermal energy consumption" / "Total production of beer and soft drinks".</p> <p><b>Scope:</b> Beer and soft drinks production sites as defined on page 3. Consumption for non-production site activities is included.</p> <p><b>Assumptions:</b> Thermal energy used for malting or other extraordinary site activities is deducted from "Total thermal energy consumption".</p>	kWh/hl
Electricity consumption*	<p><b>Definition:</b> Electricity needed to produce 1 hectolitre of beer and soft drinks.</p> <p>"Total electricity consumption" / "Total production of beer and soft drinks".</p> <p><b>Scope:</b> Beer and soft drinks production sites as defined on page 3. Consumption for non-production site activities is included.</p> <p><b>Assumptions:</b> Electricity used for malting or other extraordinary site activities is deducted from "Total electricity consumption".</p>	kWh/hl

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INDICATOR NAME	INDICATOR DEFINITION	UNIT
<b>Relative figures for beer and soft drinks production</b>		
Combined energy (thermal and electricity)*	<p><b>Definition:</b> Electricity and thermal energy needed to produce 1 hectolitre of beer and soft drinks.</p> <p>"Total electricity consumption" + "Total thermal energy consumption" / "Total production of beer and soft drinks".</p> <p><b>Scope:</b> Beer and soft drinks production sites as defined on page 3.</p>	kWh/hl
CO <sub>2</sub> emissions*	<p><b>Definition:</b> Fossil fuel carbon dioxide emissions (direct and indirect emissions) emitted from energy used to produce 1 hectolitre of beer and soft drinks.</p> <p>"Total CO<sub>2</sub> emissions (from direct and indirect fuel consumption)" / "Total production of beer and soft drinks".</p> <p><b>Scope:</b> Beer and soft drinks production sites as defined on page 3.</p> <p><b>Assumptions:</b> CO<sub>2</sub> emissions related to malting or other extraordinary site activities are deducted from "Total CO<sub>2</sub> emissions (from direct and indirect fuel consumption)".</p>	kg CO <sub>2</sub> /hl
Water use*	<p><b>Definition:</b> Water needed to produce 1 hectolitre of beer and soft drinks.</p> <p>"Total water use" / "Total production of beer and soft drinks".</p> <p><b>Scope:</b> Beer and soft drinks production sites as defined on page 3. Consumption for non-production site activities is included.</p> <p><b>Assumptions:</b> Water used for malting or other extraordinary site activities is deducted from "Total water use".</p>	hl/hl

\* 2022 data within PwC's assurance scope (see PwC's Assurance Report, pages 141-143). See previous ESG and sustainability reports for assurance of data published in prior years.

INDICATOR NAME	INDICATOR DEFINITION	UNIT
<b>Relative figures for malt production</b>		
Thermal energy	<p><b>Definition:</b> Thermal energy needed to produce 1 tonne of malt.</p> <p>“Total thermal energy consumption malting” / “Total malt production”.</p> <p><b>Scope:</b> Malting sites.</p>	kWh/tonne
Electricity	<p><b>Definition:</b> Electricity needed to produce 1 tonne of malt.</p> <p>“Total electricity consumption malting” / “Total malt production”.</p> <p><b>Scope:</b> Malting sites.</p>	kWh/tonne
Combined energy (thermal and electricity)	<p><b>Definition:</b> Thermal energy and electricity needed to produce 1 tonne of malt.</p> <p>“Total electricity consumption malting” + “total thermal energy malting” / “Total malt production”.</p> <p><b>Scope:</b> Malting sites.</p>	kWh/tonne
CO <sub>2</sub> emissions	<p><b>Definition:</b> Fossil fuel carbon dioxide emissions (direct and indirect emissions) emitted from energy used to produce 1 tonne of malt.</p> <p>“Total CO<sub>2</sub> emissions (from direct and indirect fuel consumption) malting” / “Total malt production”.</p> <p><b>Scope:</b> Malting sites.</p>	tonnes CO <sub>2</sub> /tonne

INDICATOR NAME	INDICATOR DEFINITION	UNIT
<b>Relative figures for malt production</b>		
Water	<p><b>Definition:</b> Water needed to produce 1 tonne of malt.</p> <p>“Total water use malting” / “Total malt production”.</p> <p><b>Scope:</b> Malting sites.</p>	m <sup>3</sup> /tonne
<b>Other figures</b>		
Complaints	<p><b>Definition:</b> Number of complaints from neighbours, authorities or others registered last year. A complaint has to be registered on every application to the site.</p> <p>A complaint can be related to noise, air emissions, odour, wastewater, solid waste or other environmental complaints.</p> <p><b>Scope:</b> Beer, soft drinks and malt production sites as defined on page 3.</p>	#
Number of ISO 14001 -certified sites	<p><b>Definition:</b> Number of approved and verified ISO 14001 -certified sites.</p> <p><b>Scope:</b> Beer, soft drinks and malt production sites as defined on page 3.</p>	#
Number of ISO 50001 -certified sites	<p><b>Definition:</b> Number of approved and verified ISO 50001 -certified sites.</p> <p><b>Scope:</b> Beer, soft drinks and malt production sites as defined on page 3.</p>	#

INDICATOR NAME	INDICATOR DEFINITION	UNIT
<b>Water source split</b>		
Municipal water	<p><b>Definition:</b> Share of the total amount of water received at the site from the municipal water supply relative to the total amount of water received at the site.</p> <p><b>Scope:</b> Beer, soft drinks and malt production sites as defined on page 3.</p>	%
Own boreholes	<p><b>Definition:</b> Share of the total amount of water received at the site from own boreholes relative to the total amount of water received at the site.</p> <p><b>Scope:</b> Beer, soft drinks and malt production sites as defined on page 3.</p>	%
Surface water	<p><b>Definition:</b> Share of the total amount of water received at the site from surface water relative to the total amount of water received at the site.</p> <p><b>Scope:</b> Beer, soft drinks and malt production sites as defined on page 3.</p>	%
<b>Wastewater destination</b>		
Public sewer with wastewater treatment	<p><b>Definition:</b> Share of wastewater that is emitted to public sewer with wastewater treatment.</p> <p><b>Scope:</b> Beer, soft drinks and malt production sites as defined on page 3.</p>	%
On-site treatment, followed by public sewer without wastewater treatment	<p><b>Definition:</b> Share of wastewater that is emitted to on-site treatment, followed by public sewer without wastewater treatment.</p> <p><b>Scope:</b> Beer, soft drinks and malt production sites as defined on page 3.</p>	%



INDICATOR NAME	INDICATOR DEFINITION	UNIT
<b>Wastewater destination</b>		
On-site treatment, followed by discharge to river/lake	<p><b>Definition:</b> Share of wastewater that is emitted to on-site treatment, followed by discharge to river/lake.</p> <p><b>Scope:</b> Beer, soft drinks and malt production sites as defined on page 3.</p>	%
Other	<p><b>Definition:</b> Share of wastewater that is emitted to other applications, for example soil.</p> <p><b>Scope:</b> Beer, soft drinks and malt production sites as defined on page 3.</p>	%
<b>Thermal energy mix</b>		
Natural gas	<p><b>Definition:</b> Share of thermal energy intake from natural gas.</p> <p><b>Scope:</b> Beer, soft drinks and malt production sites as defined on page 3.</p>	%
Coal	<p><b>Definition:</b> Share of thermal energy intake from coal.</p> <p><b>Scope:</b> Beer, soft drinks and malt production sites as defined on page 3.</p>	%
District heating	<p><b>Definition:</b> Share of thermal energy intake from district heating.</p> <p><b>Scope:</b> Beer, soft drinks and malt production sites as defined on page 3.</p>	%

INDICATOR NAME	INDICATOR DEFINITION	UNIT
<b>Thermal energy mix</b>		
District heating from renewable energy	<p><b>Definition:</b> Share of thermal energy intake from district heating originating from renewable energy sources.</p> <p><b>Scope:</b> Beer, soft drinks and malt production sites as defined on page 3.</p>	%
Heavy fuel	<p><b>Definition:</b> Share of thermal energy intake from heavy fuel oil.</p> <p><b>Scope:</b> Beer, soft drinks and malt production sites as defined on page 32.</p>	%
Renewable energy	<p><b>Definition:</b> Share of thermal energy intake from renewable energy sources such as biogas generated from our wastewater treatment plants and from biomass.</p> <p><b>Scope:</b> Beer, soft drinks and malt production sites as defined on page 3.</p>	%
Light fuel	<p><b>Definition:</b> Share of thermal energy intake from light fuel oil.</p> <p><b>Scope:</b> Beer, soft drinks and malt production sites as defined on page 3.</p>	%
Other	<p><b>Definition:</b> Share of thermal energy intake from other energy sources.</p> <p><b>Scope:</b> Beer, soft drinks and malt production sites as defined on page 3.</p>	%

INDICATOR NAME	INDICATOR DEFINITION	UNIT
<b>Packaging mix</b>		
Cans	<p><b>Definition:</b> Share of total production volume of beer and soft drinks packed in cans.</p> <p><b>Scope:</b> Beer and soft drinks production sites as defined on page 3.</p>	%
RGB	<p><b>Definition:</b> Share of total production volume of beer and soft drinks packed in RGB's (refillable glass bottles).</p> <p><b>Scope:</b> Beer and soft drinks production sites as defined on page 3.</p>	%
NRGB	<p><b>Definition:</b> Share of total production volume of beer and soft drinks packed in NRGBs (non-refillable glass bottles).</p> <p><b>Scope:</b> Beer and soft drinks production sites as defined on page 3.</p>	%
PET	<p><b>Definition:</b> Share of total production volume of beer and soft drinks packed in PET bottles.</p> <p><b>Scope:</b> Beer and soft drinks production sites as defined on page 3.</p>	%
Kegs	<p><b>Definition:</b> Share of total production volume of beer and soft drinks packed in kegs (steel, aluminium, or plastic).</p> <p><b>Scope:</b> Beer and soft drinks production sites as defined on page 3.</p>	%

INDICATOR NAME	INDICATOR DEFINITION	UNIT
<b>Packaging mix</b>		
Bulk	<p><b>Definition:</b> Share of total production volume of beer and soft drinks delivered to customers and consumers in bulk (tankers or containers).</p> <p><b>Scope:</b> Beer and soft drinks production sites as defined on page 3.</p>	%
Other	<p><b>Definition:</b> Share of total production volume of beer and soft drinks packed in other packaging types.</p> <p><b>Scope:</b> Beer and soft drinks production sites as defined on page 3.</p>	%
<b>Emissions from HFC-based refrigerants</b>		
Total CO <sub>2</sub> emissions from refrigerants <sup>•</sup>	<p><b>Definition:</b> CO<sub>2</sub>-equivalent emissions caused by refrigerant losses from on-site refrigerant systems.</p> <p>Emission factors for refrigerants are obtained from a range of publicly available sources and BEIS where possible.</p> <p><b>Scope:</b> Beer and soft drinks and malt production sites as defined on page 3.</p>	kt
<b>Together Towards ZERO brewery targets</b>		
Scope 1 - Absolute CO <sub>2</sub> emissions (excl. Logistics) (kt CO <sub>2</sub> ) <sup>•</sup>	<p><b>Definition:</b> Sum of "Total CO<sub>2</sub> emissions (from direct fuel consumption)" and "Total CO<sub>2</sub> emissions from refrigerants".</p> <p><b>Scope:</b> Beer and soft drinks and malt production sites as defined on page 3.</p>	kt

<sup>•</sup> 2022 data within PwC's assurance scope (see PwC's Assurance Report, pages 141-143). See previous ESG and sustainability reports for assurance of data published in prior years.

INDICATOR NAME	INDICATOR DEFINITION	UNIT
<b>Together Towards ZERO brewery targets</b>		
Scope 2 - Absolute CO <sub>2</sub> emissions. Market-based (kt CO <sub>2</sub> ) <sup>•</sup>	<p><b>Definition:</b> Sum of "Total CO<sub>2</sub> emissions (from indirect fuel consumption)".</p> <p><b>Scope:</b> Beer, soft drinks and malt production sites as defined on page 3.</p>	kt
Scope 1+2 - Absolute CO <sub>2</sub> emissions (Together Towards ZERO brewery target) <sup>•</sup>	<p><b>Definition:</b> Sum of "Total CO<sub>2</sub> emissions (from direct and indirect fuel consumption)" and "Total CO<sub>2</sub> emissions from refrigerants".</p> <p><b>Scope:</b> Beer, soft drinks and malt production sites as defined on page 3.</p>	kt
<b>Renewable electricity</b>		
Percentage of electricity from renewable sources <sup>•</sup>	<p><b>Definition:</b> Share of electricity from renewable sources.</p> <p>Renewable sources can be on-site renewable electricity generation or electricity supplied with Guarantees of Origin, Renewable Energy Guarantees Origin or similar standards.</p> <p>RE100 requirements provide the guiding principles for how renewable electricity is reported.</p> <p>"Total renewable electricity intake" / "Total electricity intake".</p> <p><b>Scope:</b> Beer, soft drinks and malt production sites as defined on page 3.</p> <p><b>Assumptions:</b> Electricity generated from on-site combined heat and power (CHP) plants is not included in "Total electricity intake".</p>	%

<sup>•</sup> 2022 data within PwC's assurance scope (see PwC's Assurance Report, pages 141 - 143). See previous ESG and sustainability reports for assurance of data published in prior years.

INDICATOR NAME	INDICATOR DEFINITION	UNIT
<b>SITES USING COAL</b>		
Number of sites using coal*	<p><b>Definition:</b> Number of breweries that used coal as the primary thermal energy source during the reporting period.</p> <p><b>Scope:</b> Beer, soft drinks and malt production sites as defined on page 3.</p> <p><b>Assumptions:</b> The brewery does not use coal on site to generate thermal energy.</p>	Number of sites
<b>Cooling</b>		
% low-climate-impact cooling	<p><b>Definition:</b> Low-climate-impact cooling is defined by the following requirements for the equipment used: 1) Use of natural refrigerants (no HFCs with high global warming potential or ozone-depleting potential). 2) Use of energy-efficient technology (lower energy consumption than previous cooling equipment by using, for example, LED lighting or EMS devices).</p> <p><b>Scope:</b> All new fridges and dispense equipment bought in the calendar year.</p>	%

\* 2022 data within PwC's assurance scope (see PwC's Assurance Report, pages 141 - 143). See previous ESG and sustainability reports for assurance of data published in prior years.

INDICATOR NAME	INDICATOR DEFINITION	UNIT
<b>BEER-IN-HAND (VALUE CHAIN) TARGET</b>		
Total value chain emissions – Absolute CO <sub>2</sub> e emissions	<p><b>Definition:</b> Total CO<sub>2</sub>e emissions is the sum of reported Scope 1, Scope 2 – market-based – and Scope 3 emissions in scope.</p> <p>Value chain (beer-in-hand) footprint analysis in accordance with the Greenhouse Gas Protocol for Scope 1, 2 and 3 emissions, the European Commission's Product Environmental Footprint guidelines, including the category rules for beer, and the Beverage Industry Greenhouse Gas Emissions Sector Guidance. Read more about our methodology on page 138.</p> <p><b>Scope:</b> Scope 1, 2 and 3 emissions for total beer, soft drinks and malt production as defined on page 3. Material Scope 3 emissions (&gt;75% of the total value chain emissions) as defined on page 138.</p> <p>CO<sub>2</sub>e emissions related to licensees' volume or third-party products are deducted from "Total value chain emissions – Absolute CO<sub>2</sub>e emissions (kt CO<sub>2</sub>e)" as the 75% in scope exceeds the GHG Protocol requirement to cover more than two thirds of total Scope 3 emissions. In the disclosures to the CDP, the emissions not in scope of the reduction target are also transparently reported.</p>	kt CO <sub>2</sub> e
Total value chain emissions – Relative CO <sub>2</sub> e emissions	<p><b>Definition:</b> Sum of reported Scope 1, Scope 2 – market-based – and Scope 3 emissions in scope related to 1 hectolitre of beer and soft drinks produced.</p> <p>"Absolute CO<sub>2</sub>e emissions" / "Total production of beer and soft drinks".</p> <p>Value chain (beer-in-hand) footprint analysis in accordance with the Greenhouse Gas Protocol for Scope 1, 2 and 3 emissions, the European Commission's Product Environmental Footprint guidelines, including the category rules for beer, and the Beverage Industry Greenhouse Gas Emissions Sector Guidance. Read more about our methodology on page 138.</p> <p><b>Scope:</b> Scope 1, 2 and 3 emissions for total beer, soft drinks and malt production as defined on page 3. Material Scope 3 emissions (&gt;75% of the total value chain emissions) as defined on page 138.</p> <p>CO<sub>2</sub>e emissions related to licensees' volume or third-party products are deducted from "Total value chain emissions – Absolute CO<sub>2</sub>e emissions (kt CO<sub>2</sub>e)" as the 75% in scope exceeds the GHG Protocol requirement to cover more than two thirds of total Scope 3 emissions. In the disclosures to the CDP, the emissions not in scope of the reduction target are also transparently reported.</p>	kg CO <sub>2</sub> e/hl

INDICATOR NAME	INDICATOR DEFINITION	UNIT
<b>BEER-IN-HAND (VALUE CHAIN) TARGET</b>	<p><b>Definition:</b> “Absolute CO<sub>2</sub>e emissions” related to a specific value chain step / “Total production of beer and soft drinks” x 100%.</p> <p>Value chain (beer-in-hand) footprint analysis in accordance with the Greenhouse Gas Protocol for Scope 1, 2 and 3 emissions, the European Commission’s Product Environmental Footprint guidelines, including the category rules for beer, and the Beverage Industry Greenhouse Gas Emissions Sector Guidance. Read more about our methodology on page 138.</p> <p><b>Scope:</b> Scope 1, 2 and 3 emissions for total beer, soft drinks and malt production as defined on page 3. Material Scope 3 emissions (&gt;75% of the total value chain emissions) as defined on page 138.</p> <p>All 15 Scope 3 categories in the Greenhouse Gas Protocol are quantified by Carlsberg, and seven categories are determined as most material and/or most directly to be influenced.</p> <p>Excluded are these eight categories: Cat. 2 Capital goods, Cat 7. Employee commuting, Cat 8. Upstream leased assets, Cat. 10 Processing of sold products, Cat. 11 Use of sold products, Cat. 13 Downstream leased assets, Cat. 14 Franchises, and Cat. 15 Investment.</p> <p>Please see the annual CDP climate disclosure for the emission estimates for those eight categories.</p> <p>Thus, value chain emissions comprise emissions relating to:            Cat. 1 – Purchased goods and services, which is reported based on procurement data for “Agriculture &amp; Processing”, “Brewery” and “Packaging”.            Cat. 3 – Fuel and energy related activities, which is reported based on actual fuel procured and consumed at the “Breweries”.            Cat. 4 – Upstream transportation and distribution, which is reported based on procurement data multiplied by the relevant emission factor per transportation category (air/sea/truck/rail) and estimated inbound transport distances in “Transportation &amp; Distribution”.            Cat. 5 – Waste generated in operations, which is reported based on amounts and types of waste at the “Breweries”.            Cat 6. – Business travel, which is reported based on procurement data for our direct air travel in other business travel in our value chain step “Transportation &amp; Distribution”.            Cat. 9 – Downstream transportation and distribution, which is reported based on fuel used in our own owned logistics and third-party logistics in our value chain step “Transportation &amp; Distribution”, and electricity use estimations for cooling our products in on- and off-trade channels reported in our value chain step “Cooling”.            Cat. 12 – End-of life treatment of sold products, which is reported based on produced volume of “Packaging (incl. end-of-life treatment)”.</p>	%



INDICATOR NAME	INDICATOR DEFINITION	UNIT
<b>HEALTH &amp; SAFETY</b>		
<b>Figures for Production, Logistics, Sales &amp; Marketing, Administration, &amp; for the Group</b>		
Lost-time accidents (LTAs) in Production, Logistics, Sales & Marketing and Administration*	<p><b>Definition:</b> Any wound or damage to the body, resulting from a brief single event or exposure, causing lost time.</p> <p>Lost time occurs when the injured/ill person is medically considered unable to work. It includes time away from work for rest, recovery or treatment.</p> <p>“Accident” and “injury” are used interchangeably.</p> <p><b>Scope:</b> All majority-owned companies and production sites as defined on page 3.</p>	LTA
Full-time equivalents (FTEs) in Production, Logistics, Sales & Marketing and Administration*	<p><b>Definition:</b> Full-time equivalents (FTEs) is equal to the average number of employees on the payroll. Part-time employees are converted into FTEs proportionally.</p> <p><b>Scope:</b> All majority-owned companies and production sites as defined on page 3.</p>	FTE
Lost-time accident rate (LTAR) in Production, Logistics, Sales & Marketing and Administration*	<p><b>Definition</b> Number of lost-time accidents (LTAs) x 1,000 / Number of full-time equivalents (FTEs).</p> <p><b>Scope:</b> All majority-owned companies and production sites as defined on page 3.</p>	LTAR

\* 2022 data within PwC’s assurance scope (see PwC’s Assurance Report, pages 141 - 143). See previous ESG and sustainability reports for assurance of data published in prior years.

INDICATOR NAME	INDICATOR DEFINITION	UNIT
<p><b>HEALTH &amp; SAFETY</b></p> <p>Figures for Production, Logistics, Sales &amp; Marketing, Administration, &amp; for the Group</p>	<p><b>Definition:</b> Any wound or damage to the body, resulting from a brief single event or exposure, causing lost time.</p> <p>Lost time occurs when the injured/ill person is medically considered unable to work. It includes time away from work for rest, recovery or treatment.</p> <p>Contractor: any individual who works for a service provider (or who is self-employed) and performs an outsourced activity for Carlsberg (including individuals who work for subcontractors).</p> <p>Carlsberg site: any site managed by Carlsberg, or where construction work is being carried out on our behalf, including greenfield and brownfield project sites.</p> <p>"Accident" and "injury" are used interchangeably.</p> <p><b>Scope:</b> All majority-owned companies and production sites as defined on page 3.</p>	LTA
<p>Lost-time accidents (LTAs), members of the public on Carlsberg site*</p>	<p><b>Definition:</b> Any wound or damage to the body, resulting from a brief single event or exposure, causing lost time.</p> <p>Lost time occurs when the injured/ill person is medically considered unable to work. It includes time away from work for rest, recovery or treatment.</p> <p>Member of the public: any individual who does not correspond to the definitions of regular employee, temporary employee or contractor (e.g. visitors, delivery personnel, suppliers, consultants, students, family members).</p> <p>Carlsberg site: any site managed by Carlsberg, or where construction work is being carried out on our behalf, including greenfield and brownfield project sites.</p> <p>"Accident" and "injury" are used interchangeably.</p> <p><b>Scope:</b> All majority-owned companies and production sites as defined on page 3.</p>	LTA

\* 2022 data within PwC's assurance scope (see PwC's Assurance Report, pages 141 - 143). See previous ESG and sustainability reports for assurance of data published in prior years.

INDICATOR NAME	INDICATOR DEFINITION	UNIT
<b>HEALTH &amp; SAFETY</b>		
<b>Figures for Production, Logistics, Sales &amp; Marketing, Administration, &amp; for the Group</b>		
Fatalities (Carlsberg Group employees on and off site, contractors and members of the public on site)	<p><b>Definition:</b> Fatalities among Carlsberg Group employees on and off site, contractors, and members of the public on site.</p> <p><b>Scope:</b> All majority-owned companies and production sites as defined on page 3.</p>	#
<b>Lost-time accidents – department split</b>		
Percentage in Production	<p><b>Definition:</b> Share of Lost-time accidents occurring in Production.</p> <p><b>Scope:</b> All majority-owned companies and production sites as defined on page 3.</p>	%
Percentage in Logistics	<p><b>Definition:</b> Share of Lost-time accidents occurring in Logistics.</p> <p><b>Scope:</b> All majority-owned companies and production sites as defined on page 3.</p>	%
Percentage in Sales & Marketing and Administration	<p><b>Definition:</b> Share of Lost-time accidents occurring in Sales &amp; Marketing and Administration.</p> <p><b>Scope:</b> All majority-owned companies and production sites as defined on page 3.</p>	%

INDICATOR NAME	INDICATOR DEFINITION	UNIT
<b>RESPONSIBLE DRINKING AND MARKETING COMMUNICATION</b>		
Percentage of companies implementing responsible drinking initiatives	<p><b>Definition:</b> Share of Carlsberg companies implementing responsible drinking initiatives.</p> <p>Responsible drinking initiatives can be linked to brands, partnerships, customers and consumers, and cover areas like binge drinking, pregnancy or drink-driving.</p> <p><b>Scope:</b> All majority-owned companies as defined on page 3.</p> <p><b>Assumption:</b> All majority-owned companies that only have microbrewery operations are exempted from implementing responsible drinking initiatives but will rely on activities from other Carlsberg companies, typically in the same country.</p>	%
Percentage of fermented produced volume carrying responsible drinking guiding symbols and/or equivalent text	<p><b>Definition:</b> “Volume of packed fermented products carrying a legal age-restriction symbol or equivalent text, a don’t drink and drive symbol or equivalent text, or a don’t drink when pregnant symbol or equivalent text (on primary packaging, excluding kegs and alcohol-free brews)” / “Total packed fermented production volume x 100%”.</p> <p><b>Scope:</b> All majority-owned companies and production sites as defined on page 3, excluding companies without production and/or direct sales activities.</p>	%
Percentage of fermented produced volume carrying a legal age-restriction symbol or equivalent text*	<p><b>Definition:</b> “Volume of packed fermented products carrying a legal age-restriction symbol or equivalent text (on primary packaging, excluding kegs and alcohol-free brews)” / “Total packed fermented production volume x 100%”.</p> <p><b>Scope:</b> All majority-owned companies and production sites as defined on page 3, excluding companies without production and/or direct sales activities.</p>	%

\* 2022 data within PwC’s assurance scope (see PwC’s Assurance Report, pages 141-143). See previous ESG and sustainability reports for assurance of data published in prior years.

INDICATOR NAME	INDICATOR DEFINITION	UNIT
<b>RESPONSIBLE DRINKING AND MARKETING COMMUNICATION</b>		
Percentage of fermented produced volume that lists nutritional information*	<p><b>Definition:</b> "Volume of packed fermented products that list nutritional information (on primary packaging, excluding kegs and alcohol-free brews)" / "Total packed fermented production volume x 100%".</p> <p>Nutritional declaration: nutrition declared on consumer-facing primary packaging. Minimum requirement is to present energy in linear form (e.g. "Energy: 190 kJ/46 kcal per 100 ml").</p> <p><b>Scope:</b> All majority-owned companies and production sites as defined on page 3, excluding companies without production and/or direct sales activities.</p>	%
Percentage of fermented produced volume that lists ingredient information*	<p><b>Definition:</b> "Volume of packed fermented products that list ingredient information (on primary packaging, excluding kegs and alcohol-free brews)" / "Total packed fermented production volume x 100%".</p> <p>Ingredient declaration: ingredients presented on consumer-facing primary packaging in linear form (e.g. "Water, barley malt, hops").</p> <p><b>Scope:</b> All majority-owned companies and production sites as defined on page 3, excluding companies without production and/or direct sales activities.</p>	%
Number of responsible drinking campaigns	<p><b>Definition:</b> Share of Carlsberg companies implementing responsible drinking campaigns.</p> <p>A responsible drinking campaign is a series of messages sharing a single idea and theme around responsible drinking that make up an integrated marketing communication. Campaigns or initiatives can appear in different media (digital, traditional, ABT, BTL) across a specific timeframe.</p> <p><b>Scope:</b> All majority-owned companies as defined on page 3.</p> <p><b>Assumption:</b> All majority-owned companies that only have microbrewery operations are exempted from implementing responsible drinking campaigns but will rely on campaigns from other Carlsberg companies, typically in the same country.</p>	#

\* 2022 data within PwC's assurance scope (see PwC's Assurance Report, pages 141-143). See previous ESG and sustainability reports for assurance of data published in prior years.

INDICATOR NAME	INDICATOR DEFINITION	UNIT
<b>LIVING BY OUR COMPASS</b>		
Total number of employees trained in the Code of Ethics & Conduct	<p><b>Definition:</b> Total number of employees trained in the Code of Ethics &amp; Conduct.</p> <p>Training can be online and/or in classroom settings, and employees are Carlsberg employees.</p> <p><b>Scope:</b> All new or relevant existing employees with an active directory account at all majority-owned companies and production sites as defined on page 3.</p>	#
Number of incidents reported through our Speak Up system	<p><b>Definition:</b> Number of incidents reported through our Speak Up system.</p> <p>Incidents/concerns that can be raised via Speak Up include:</p> <ul style="list-style-type: none"> <li>• corruption and bribery,</li> <li>• violations of various laws (including competition law, insider trading, trade sanctions, export control, and data protection and privacy laws),</li> <li>• accounting manipulation,</li> <li>• conflict of interest,</li> <li>• discrimination,</li> <li>• (sexual) harassment,</li> <li>• asset misappropriation (including theft, improper use of company resources),</li> <li>• disclosure of confidential information,</li> <li>• environmental issues,</li> <li>• and health and safety issues, and</li> <li>• retaliation.</li> </ul> <p>The number presented is the total number of suspected cases of misconduct reported in the Speak Up system.</p> <p><b>Scope:</b> Everybody is invited to speak up, both employees and external parties. Our Speak Up system is available to anyone who wishes to raise a concern about possible misconduct within Carlsberg.</p>	#

INDICATOR NAME	INDICATOR DEFINITION	UNIT
<b>LABOUR, HUMAN RIGHTS, DIVERSITY, EQUITY AND INCLUSION</b>		
<b>Total workforce</b>		
Total number of FTEs	<p><b>Definition:</b> Full-time equivalents (FTEs) is equal to the average number of employees on the payroll. Part-time employees are converted into FTEs proportionally.</p> <p><b>Scope:</b> All majority-owned companies and production sites as defined on page 3.</p>	#
<b>Percentage of women in senior leadership roles</b>		
Percentage of women in senior leadership roles*	<p><b>Definition:</b> Percentage of women in senior leadership roles is calculated by dividing the number of women in senior leadership roles by the total number of employees in senior leadership roles. Senior leadership roles are defined as all employees in band 7+ (Director, Senior Director, VP, MD, SVP, EVP, CFO, CEO).  Performance is measured at year-end.</p>	%
<b>Percentage of employees by employment contract</b>		
Permanent employees	<p><b>Definition:</b> Number of employees in Employee Group = "Permanent" relative to the total number of employees in Carlsberg.</p> <p><b>Scope:</b> All majority-owned companies and production sites as defined on page 3.</p>	%
Temporary employees	<p><b>Definition:</b> Number of employees in Employee Group = "Temporary" relative to the total number of employees in Carlsberg.</p> <p><b>Scope:</b> All majority-owned companies and production sites as defined on page 3.</p>	%

\* 2022 data within PwC's assurance scope (see PwC's Assurance Report, pages 141 - 143).

INDICATOR NAME	INDICATOR DEFINITION	UNIT
<b>Percentage of employees by employment type</b>		
Full-time	<p><b>Definition:</b> Number of employees in Employment Type = "Full-time" relative to the total number of employees in Carlsberg.</p> <p><b>Scope:</b> All majority-owned companies and production sites as defined on page 3.</p>	%
Part-time	<p><b>Definition:</b> Number of employees in Employment Type = "Part-time" relative to the total number of employees in Carlsberg.</p> <p><b>Scope:</b> All majority-owned companies and production sites as defined on page 3.</p>	%
<b>Percentage of employees by employment category</b>		
Total presidents + top managers	<p><b>Definition:</b> Number of employees in Employment Subgroup = "Top Management" or "VP/Directors" relative to the total number of employees in Carlsberg.</p> <p><b>Scope:</b> All majority-owned companies and production sites as defined on page 3.</p>	%
Total managers	<p><b>Definition:</b> Number of employees in Employment Subgroup = "Managers" relative to the total number of employees in Carlsberg.</p> <p><b>Scope:</b> All majority-owned companies and production sites as defined on page 3.</p>	%
Total specialists	<p><b>Definition:</b> Number of employees in Employment Subgroup = "Specialists" relative to the total number of employees in Carlsberg.</p> <p><b>Scope:</b> All majority-owned companies and production sites as defined on page 3.</p>	%
Total workers	<p><b>Definition:</b> Number of employees in Employment Subgroup = "Workers" relative to the total number of employees in Carlsberg.</p> <p><b>Scope:</b> All majority-owned companies and production sites as defined on page 3.</p>	%



INDICATOR NAME	INDICATOR DEFINITION	UNIT
<b>Percentage of employees by age</b>		
Younger than 18	<p><b>Definition:</b> Number of employees, age =&lt;18 relative to the total number of employees in Carlsberg.</p> <p><b>Scope:</b> All majority-owned companies and production sites as defined on page 3.</p>	%
19-29	<p><b>Definition:</b> Number of employees, age =&gt;19 and &lt;30 relative to the total number of employees in Carlsberg.</p> <p><b>Scope:</b> All majority-owned companies and production sites as defined on page 3.</p>	%
30-39	<p><b>Definition:</b> Number of employees, age =&gt;30 and &lt;40 relative to the total number of employees in Carlsberg.</p> <p><b>Scope:</b> All majority-owned companies and production sites as defined on page 3.</p>	%
40-49	<p><b>Definition:</b> Number of employees, age =&gt;40 and &lt;50 relative to the total number of employees in Carlsberg.</p> <p><b>Scope:</b> All majority-owned companies and production sites as defined on page 3.</p>	%
50 or older	<p><b>Definition:</b> Number of employees, age =&gt;50 relative to the total number of employees in Carlsberg.</p> <p><b>Scope:</b> All majority-owned companies and production sites as defined on page 3.</p>	%

INDICATOR NAME	INDICATOR DEFINITION	UNIT
<b>Employee turnover</b>		
Employee turnover percentage	<p><b>Definition:</b> Number of leavers relative to the total number of employees in Carlsberg. Leavers = employees ending their employment with Carlsberg.</p> <p><b>Scope:</b> All majority-owned companies and production sites as defined on page 3.</p>	%
<b>Employee turnover percentage by age</b>		
Younger than 18	<p><b>Definition:</b> Number of leavers, age =&lt;18 relative to the total number of leavers. Leavers = employees ending their employment with Carlsberg.</p> <p><b>Scope:</b> All majority-owned companies and production sites as defined on page 3.</p>	%
19-29	<p><b>Definition:</b> Number of leavers, age =&gt;19 and &lt;30 relative to the total number of leavers. Leavers = employees ending their employment with Carlsberg.</p> <p><b>Scope:</b> All majority-owned companies and production sites as defined on page 3.</p>	%
30-39	<p><b>Definition:</b> Number of leavers, age =&gt;30 and &lt;40 relative to the total number of leavers. Leavers = employees ending their employment with Carlsberg.</p> <p><b>Scope:</b> All majority-owned companies and production sites as defined on page 3.</p>	%
40-49	<p><b>Definition:</b> Number of leavers, age =&gt;40 and &lt;50 relative to the total number of leavers. Leavers = employees ending their employment with Carlsberg.</p> <p><b>Scope:</b> All majority-owned companies and production sites as defined on page 3.</p>	%

INDICATOR NAME	INDICATOR DEFINITION	UNIT
<b>Employee turnover percentage by age</b>		
50 or older	<p><b>Definition:</b> Number of leavers, age =&gt;50 relative to the total number of leavers. Leavers = employees ending their employment with Carlsberg.</p> <p><b>Scope:</b> All majority-owned companies and production sites as defined on page 3.</p>	%
<b>Employee turnover percentage by gender</b>		
Men	<p><b>Definition:</b> Number of men leavers relative to the total number of leavers. Leavers = employees ending their employment with Carlsberg.</p> <p><b>Scope:</b> All majority-owned companies and production sites as defined on page 3.</p>	%
Women	<p><b>Definition:</b> Number of women leavers relative to the total number of leavers. Leavers = employees ending their employment with Carlsberg.</p> <p><b>Scope:</b> All majority-owned companies and production sites as defined on page 3.</p>	%
<b>Hours of training per employee</b>		
Average for the Group	<p><b>Definition:</b> Average hours of training per employee is defined as total hours of training relative to the number of FTEs.</p> <p>Training is defined as all types of vocational training and instruction; paid educational leave provided by the reporting organisation for its employees; training or education pursued externally and paid for in whole or in part by the reporting organisation; and training on specific topics such as health and safety.</p> <p><b>Scope:</b> All majority-owned companies and production sites as defined on page 3.</p>	#

INDICATOR NAME	INDICATOR DEFINITION	UNIT
<b>Collective bargaining</b>		
Percentage of employees covered by collective bargaining agreements	<p><b>Definition:</b> Number of Carlsberg employees covered by collective bargaining agreements relative to the total number of headcounts in Carlsberg.</p> <p><b>Scope:</b> All majority-owned companies and production sites as defined on page 3 plus binding collective bargaining agreements signed by the Carlsberg Group or any of its entities or agreements signed by an employer organisation of which the Carlsberg Group or any of its entities is a member.</p>	%
<b>Percentage of employees by gender</b>		
Men	<p><b>Definition:</b> Number of men employees relative to the total number of headcounts in Carlsberg.</p> <p><b>Scope:</b> All majority-owned companies and production sites as defined on page 3.</p>	%
Women	<p><b>Definition:</b> Number of women employees relative to the total number of headcounts in Carlsberg.</p> <p><b>Scope:</b> All majority-owned companies and production sites as defined on page 3.</p>	%
<b>Percentage of senior leadership roles level by gender</b>		
Men	<p><b>Definition:</b> Number of men employees in senior leadership roles relative to the total number of employees in senior leadership roles. Senior leadership roles are defined as all employees in band 7+ (Director, Senior Director, VP, MD, SVP, EVP, CFO, CEO).</p> <p><b>Scope:</b> All majority-owned companies and production sites as defined on page 3.</p>	%

INDICATOR NAME	INDICATOR DEFINITION	UNIT
Percentage of senior leadership roles level by gender	<p data-bbox="109 395 181 416">Women</p> <p data-bbox="479 395 562 416"><b>Definition:</b> Number of women employees in senior leadership roles relative to the total number of employees in senior leadership roles. Senior leadership roles are defined as all employees in band 7+ (Director, Senior Director, VP, MD, SVP, EVP, CFO, CEO).</p> <p data-bbox="479 504 1144 525"><b>Scope:</b> All majority-owned companies and production sites as defined on page 3.</p>	%
RESPONSIBLE SOURCING	<p data-bbox="109 651 405 671">Number of integrated quality audits</p> <p data-bbox="479 651 562 671"><b>Definition:</b> Number of integrated quality audits conducted by the internal auditing team.</p> <p data-bbox="479 732 1144 753"><b>Scope:</b> All majority-owned companies and production sites as defined on page 3.</p>	#

# LIST OF REPORTING SITES

MARKET	COMPANY	SITES
<b>WESTERN EUROPE</b>		
Belgium	Grimbergen Abbey Brewery (Company)	Grimbergen Abbey Brewery
Czechia	Zatecky Pivovar	Zatec
Denmark	Carlsberg Danmark Carlsberg Breweries	Saltum, Carlsberg Fredericia No production sites
Finland	Sinebrychoff	Kerava
France	Kronenbourg	Kronenbourg Obernai
Germany	Carlsberg Deutschland	Hamburg Hausbruch, Mecklenburgische Brauerei Lübz, Wernesgrüner Brauerei
Norway	Ringnes E.C. Dahls Bryggeri	Farris, Gjelleråsen, Imsdal E.C. Dahls Trondheim
Poland	Carlsberg Polska Carlsberg Shared Services (CSS)	Okocim Brewery Brzesko, Kasztelan Brewery, Szczecin Brewery No production sites
Sweden	Carlsberg Sverige Nya Carnegiebryggeriet	Falkenberg, Ramlösa Sverige Nya Carnegiebryggeriet
Switzerland	Feldschlösschen Carlsberg Supply Company	Rhâzüns, S Rheinfeld, Sion No production sites
UK	Carlsberg CMBC	Northampton, Banks's Park Brewery, Eagle Brewery, Jennings Brewery, Marston's Brewery, Ringwood Brewery, Wychwood Brewery

MARKET	COMPANY	SITES
<b>CENTRAL &amp; EASTERN EUROPE</b>		
Azerbaijan	Carlsberg Azerbaijan	Baku
Belarus	Alivaria	Alivaria
Bulgaria	Carlsberg Bulgaria	Pirinsko, Shumensko
Croatia	Carlsberg Croatia	Koprivnica
Estonia	Saku Õlletehase as	Saku
Greece	Olympic Brewery S.A.	Thessaloniki, Ritsona Brewery
Italy	Carlsberg Italia	Varese
Kazakhstan	Carlsberg Kazakhstan	Carlsberg Kazakhstan (brewery site)
Latvia	Aldaris	Aldaris Riga
Lithuania	Svyturys Utenos Alus	Utena, Klaipeda
Serbia	Carlsberg Srbija	Carlsberg Srbija – Celarevo
Ukraine	Carlsberg Ukraine	Lvivska Brewery Lviv, Slavutich Zaporozhye, Slavutich Kiev
<b>ASIA</b>		
Cambodia	Cambrew LTD	Brewery Sihanouk Ville
China	Xinjiang Group	Akesu Brewery, Urumqi No. 2 Brewery, Wusu Brewery, Yining Brewery, Korle Brewery
	CIB & TMH (business unit)	Carlsberg Brewery Guangdong (Huizhou), Changzhou Tianmuhu Beer Co. Ltd, Anhui Tiandao Beer Co. Ltd, Yanchen Brewery
	Ningxia	Ningxia Xixia Jianiang Brewery
	Yunnan Group	Kunming Huashi Brewery Yunnan, Dali Beer Co. Ltd
	Chongqing Brewery	Mawangxiang Brewery, Dazhulin Brewery, Hechuan Brewery, Liangping Brewery, Wanzhou Brewery, Fuling Brewery, Panzhuhua Brewery, Xichang Brewery, Boke Brewery, Shizhu Brewery, Yibin Brewery, Guoren Lixian Brewery, Guoren Yongzhou Brewery
	Guangzhou Carlsberg Consultancy and Management Services Co., Ltd	No production sites
	Carlsberg Brewery Hong Kong	No production sites
India	Carlsberg India	Kolkatta, Alwar, Aurangabad, Paonta Sahib, Hyderabad, Dharuhera, Mysuru Karnataka Brewery
Laos	Lao Brewery	Pepsi Plant Vientiane, Lao Brewery Pakse, Lao Brewery Vientiane
Malaysia	Carlsberg Brewery Malaysia Berhad	Carlsberg Kuala Lumpur
Singapore	Carlsberg Singapore	No production sites
Vietnam	Carlsberg Vietnam	Phu Bai

# TAX CONTRIBUTION PRINCIPLES

## BASIS OF PREPARATION GENERAL COMMENTS

This Basis of Preparation presents the scope and methodology of the collection and reporting of the data on tax payments used in the Contributing to economies section (“the Section”).

The Section aims to provide readers with an overview of the total tax contribution to society that the Carlsberg Group (excluding associates) has generated during the year. The total tax contribution is defined as taxes borne and taxes collected by the Carlsberg Group.

It is the responsibility of the management of the Carlsberg Group to ensure that appropriate procedures are in place to prepare reporting in line with this Basis of Preparation.

All data, unless otherwise stated, has been prepared for the year from 1 January 2022 to 31 December 2022.

Data is collected for consolidated entities that are part of continuing activities in the Carlsberg Group

(for more on the reporting scope, see page 99).

Companies over which the Carlsberg Group exercises a significant influence, but which it does not consolidate, are considered to be associates. Data for associates is not part of the Carlsberg Group tax contribution.

Entities acquired or formed during the year are recognised in the Section from the date of acquisition or formation. Entities that are disposed of or wound up are recognised in the consolidated income statement up to the date of disposal or winding-up.

The data includes a degree of estimation, as tax per entity is not reported in detail if a type of tax is below DKK 100,000 per year. Instead, taxes below DKK 50,000 are not reported, and taxes above DKK 50,000 but below DKK 100,000 are reported as DKK 50,000. The data is reported by the entity in local currency in multiples of 1,000.

## SCOPE OF REPORTING AND DEFINITION OF KEY TERMS

“Tax” in this Section means any amount of money required to be paid to, or collected and subsequently remitted to, a government.

Terms defined in the Carlsberg Group’s Annual Report 2022 are not described below.

Taxes borne and taxes collected are the taxes due in respect of an accounting period as defined in IFRS, as adopted by the EU.

## KEY TERM DEFINITIONS

### Economic value generated

Economic value generated comprises gross revenue, other income, financial income and income included in special items, and share of profit after tax in associates and joint ventures. Income recognised in other comprehensive income is not included.

### Total tax contribution

Total tax contribution is the sum of borne and collected taxes paid to governments for the period from 1

January to 31 December. Amounts are included as paid when cash is released from or received by the Carlsberg Group.

### Operating costs

Include cost of sales, sales and distribution expenses, administrative expenses and other operating expenses, but exclude employee wages.

### Effective tax rate

Effective tax rate is calculated as corporate income taxes in proportion to profit before tax. When calculating the effective tax rate adjusted for special items, special items as well as the tax associated herewith are deducted from profit before tax and total corporate income taxes respectively, in order to obtain an effective tax rate reflecting local business activities without influence from items that are unusual for the business.

### Employee wages

Include wages to employees, excluding social security costs.

### Providers of capital

Include financial expenses recognised in the income statement, but exclude financial expenses recognised in other comprehensive income.

### Economic value retained

Consolidated profit after tax.

### Employee taxes

Include personal income taxes and social contribution for employees (collected).

### Government

Any government body or nation, state, region or district.

## SCOPE OF REPORTING

### 1. TAXES BORNE

These are the taxes that the Carlsberg Group is obliged to pay to a government on its own behalf, or taxes that the Group is obliged to pay to a third party and that cannot be recovered from a government.

### Corporate income tax

Corporate income tax comprises any tax on the business calculated on the basis of its profits, income or capital gains. Typically, these taxes would be reflected in corporate income tax



returns made to governments and tend to become payable, and are paid, either in the year the profits were made or up to one year later, depending on the local tax rules as to timing of payments.

#### **Energy taxes (net, non-refundable)**

Energy taxes comprise environmental taxes levied on the consumption of energy borne by companies' own supply of energy. Such taxes may include taxes on the consumption of electricity, oil, gas or coal.

#### **Environmental fees**

Environmental fees comprise additional environmental taxes that may apply depending on company operations. Such taxes may include other taxes and duties on the supply of goods and services that are potentially harmful to the environment and have not been included in the energy taxes.

#### **VAT (non-deductible)**

Non-deductible VAT is the part of the input VAT that cannot be recovered, e.g. VAT on gifts or entertainment.

#### **Real estate taxes**

Real estate taxes comprise any property-related taxes, including property, land and estate tax (other than stamp duty, which is shown below). Typically, these taxes tend

to become payable, and are paid, to governments throughout the year.

#### **Withholding taxes on dividends, royalties, interest and professional fees**

Withholding taxes comprise the final tax burden on payment of dividends, interest etc. after possible tax relief.

#### **Transportation taxes**

Transportation taxes comprise flight tax, petrol tax, registration duties and other taxes levied on the mobility of goods and employees.

#### **Social contribution for employees**

Social contribution for employees comprises the social security contributions levied on and borne by the employing company. Such contributions may include the employer's national insurance contributions, employment insurance tax, employees' provident fund, and old-age, survivors' and disability insurance tax.

#### **Stamp duties**

Stamp duties comprise taxes that arise on transfers of assets or capital. Typically, these taxes would be reflected in stamp duty returns made to governments and tend to become payable, and are paid, to governments shortly after the capital or assets have been transferred.

#### **Other taxes**

This category comprises all taxes paid that are not included in the above categories.

#### **2. TAXES COLLECTED, INCLUDING EXCISE DUTIES**

These are taxes not finally borne by the Carlsberg Group, but for which the Group bears an administrative burden of collection. These taxes are, however, indirectly generated from the Group's business activities and are therefore part of the Group's total tax contribution.

#### **Excise duties (beer and soft drinks etc.)**

Excise duties are indirect taxes on the consumption of alcoholic beverages etc.

Excise duties are generally imposed by the tax authorities and are collected by the Group on behalf of the authorities when the goods are transferred to the customers and are thereby ready for consumption.

#### **Personal income taxes**

These comprise employee taxes withheld from employee wages and paid to governments, i.e. tax collected and remitted to governments on behalf of employees.

#### **Social contribution withheld by the company**

This comprises social contributions payable by employees to social security, and private funded and unfunded schemes. Generally, the employment of staff requires the employing company to administer employees' social security contributions by deducting these from wages and salaries.

#### **Withholding tax on dividend distributions made by Carlsberg A/S**

This comprises taxes that are required to be withheld in advance on payments made to shareholders.

#### **VAT/GST**

VAT is a broadly based consumption tax assessed on the value added to goods and services. It applies more or less to all goods and services that are bought and sold for use or consumption.

VAT is assessed and collected at each point in the manufacturing–distribution–sales process of a good or supply of a service.

Like VAT, the Goods and Service Tax (GST) is a value-added tax assessed on most goods and services bought and sold for consumption.

# VALUE CHAIN CARBON EMISSIONS METHODOLOGY

Our value chain carbon footprint includes Scope 1, 2 and 3 emissions as set out in the Greenhouse Gas (GHG) Protocol.

Our targets, aligned with the Science Based Targets initiative, are to cut our value chain footprint by 15% by 2022 and by 30% by 2030 (from our 2015 baseline).

To assess progress, we measure our value chain footprint every three years. In 2020, we completed an analysis of our 2019 footprint, which showed a 7% improvement from the 2015 baseline. We will conduct our next detailed analysis in 2023, based on 2022 data, to assess progress against the 2022 target.

We worked with the Carbon Trust to build a value chain model that enables us to measure and track reductions in our value chain footprint.

## MODELLING AND USING STANDARDS

To calculate a value chain carbon footprint requires extensive data on emissions at every stage of the value chain. While we have a good

understanding of our own operational emissions (Scope 1 and 2), visibility of Scope 3 emissions is often more limited.

Calculating footprints requires a combination of measurement and modelling, which includes an inherent level of uncertainty. We limit this uncertainty by following and supporting the development of industry-leading standards – and we encourage others to adopt these standards to support consistency and credibility in reporting across the industry.

The standards we follow are:

- GHG Protocol (including the Corporate Value Chain (Scope 3) Accounting and Reporting Standard Supplement)
- Beverage Industry GHG Emissions Sector Guidance (Version 4.1), developed by the Beverage Industry Environmental Round Table
- Specific Product Environmental Footprint Category Rules (PEFCR) developed for the beer industry in cooperation with the European Commission (while this standard is for product lifecycle analysis, much

of it is also applicable to value chain analysis).

## DATA QUALITY

We use the most robust data available to model our value chain emissions. In 2020, this included primary data from suppliers accounting for more than 60% of our total spend – most related to packaging, which accounts for the largest portion of our value chain emissions. Collecting raw data directly from suppliers helps to ensure the quality and comparability of data sets. We apply the standardised Circular Footprint Formula, part of the PEFCR, for all packaging types supplied to us. Where primary data is not available, we use the PEFCR's country-specific emission factors.

## MATERIAL SCOPE 3 EMISSIONS

We focus our efforts and our value chain footprint targets on the Scope 3 emissions where we have the greatest influence: the value chain associated with our own production volume. An analysis showed that more than 75% of the total value chain emissions relate to our own production volume, and the

remainder to licensees, third-party products and joint ventures or associates. The 75% exceeds the Science Based Targets initiative's requirement to cover more than two thirds of total Scope 3 emissions.

Our value chain footprint includes emissions from each stage of the value chain:

**Agriculture & Processing:** includes all upstream emissions (such as fertiliser and seed production), farming and processing of agricultural raw materials used at all Carlsberg breweries – modelled using data specific to each country and type of grain where available.

**Breweries:** includes emissions from electricity, thermal fuels, waste leaving breweries, water treatment and refrigerant leakage at all majority-owned breweries within the Carlsberg Group's management control. Excludes emissions from off-site warehouses.

**Packaging:** includes production and end-of-life treatment (recycling, incinerating or landfill) for all primary, secondary, tertiary and

quaternary packaging (incorporating all minor components, such as labels, glues and caps).

**Transportation & Distribution:** includes inbound transport of raw materials and outbound transport of finished products – based on distances travelled, mode of transport (road, rail, sea) and temperature (ambient, chilled) – as well as flights for business travel.

**Cooling:** includes chilling of products by customers (retail and hospitality). Excludes home cooling, as this is beyond our influence and beverages account for only a small proportion of home refrigeration.

## Engagement within the organisation

The results of our value chain footprint analysis, as well as priorities to support reductions at each stage of the value chain, are discussed and approved by our Executive Committee. In 2020 and 2021, we ran sessions with all local management teams to present market-specific developments and identify local actions.

# ECONOMIC CONTRIBUTION METHODOLOGY

Estimates of the total jobs we indirectly support throughout the value chain were calculated by the research consultancy Europe Economics using a well-established methodology.

The methodology uses data collected from the Carlsberg Group Export & License department from 28 different companies across the world owned by Carlsberg A/S, including data on:

- employment (number of people in each market)
- production, exports and imports (in hectolitres)
- value of purchases.

This data is complemented with productivity indicators sourced from various national statistics offices.

Russia and Nepal are not included in this year's calculations.

## UPSTREAM INDIRECT EMPLOYMENT

Our upstream indirect impacts include impacts in the supply chain for the raw ingredients, products and services we purchase.

These were calculated using data on the shares of upstream domestic purchases for production in the following sectors: agriculture; utilities; packaging and bottling; transportation and storage; equipment and other industrial activities; media, marketing and communication; and other goods and services.

The value of purchases has been estimated using production volumes (except for a minority of countries where budgeted purchases were provided). The split between the upstream sectors is obtained from information collected from the respective countries in 2019. Upstream indirect employment was calculated using ratios of turnover per person employed.

For European countries, these ratios were sourced from national statistical offices and Eurostat, the statistical office of the European Union, using the European Classification of Economic Activities (NACE) Rev. 2 sector classifications.

For non-European countries, we used ratios calculated using World Bank data (available for the agriculture, industry and services sectors only).

For all countries, the productivity ratios are linked to 2019 data as this is the most recent year available that is not affected by the economic impact of COVID-19.

## DOWNSTREAM INDIRECT EMPLOYMENT

Our downstream indirect impacts include impacts in the hospitality (on-trade) and retail (off-trade) sectors.

These were calculated using data on prices and shares of Carlsberg Group sales in on- and off-trade markets collected at the end of 2022.

Calculations start with the total consumption values in on- and off-trade markets, which are calculated based on three components:

- annual domestic 2022 sales in each country (domestic production plus imports less exports, in hectolitres)
- the estimated 2022 split between on- and off-trade markets in each country
- the prices of the products sold in each country.

The market values are then converted to pre-tax values by removing the VAT. Excise duties are not removed as the productivity ratios used from statistical sources include these duties.

Downstream indirect employment was calculated using ratios of turnover per person employed.

For European countries, we used data from national statistical offices and Eurostat for the NACE Rev. 2 sectors of retail sale of beverages in specialised stores and beverage-serving activities. For non-European countries, we used World Bank data for the services sector.

# MANAGEMENT STATEMENT

The Supervisory Board and Executive Board have today considered and approved the 2022 ESG Report of Carlsberg for the reporting period 1 January to 31 December 2022.

The 2022 ESG Report has been prepared in accordance with the stated ESG accounting principles and the Greenhouse Gas Protocol guidelines regarding our carbon footprint.

In our opinion, the 2022 ESG Report gives a fair presentation of the Group's ESG activities and results of our ESG efforts in the reporting period as well as a balanced presentation of our ESG performance in accordance with the stated accounting principles.

Copenhagen, 7 February 2023

## Executive Board of Carlsberg A/S

Cees 't Hart  
President & CEO

Ulrica Fearn  
CFO

## Supervisory Board of Carlsberg A/S

Henrik Poulsen  
Chair

Majken Schultz  
Deputy Chair

Hans Andersen

Mikael Aro

Carl Bache

Magdi Batato

Lilian Fossum Biner

Richard Burrows

Eva Vilstrup Decker

Punita Lal

Erik Lund

Olayide Oladokun

Søren-Peter Fuchs Olesen

Tenna Skov Thorsted

# INDEPENDENT LIMITED ASSURANCE REPORT ON SELECTED DATA

## TO THE STAKEHOLDERS OF CARLSBERG A/S

Carlsberg A/S engaged us to provide limited assurance on the selected data described below and included in the Carlsberg Group's Environmental, Social and Governance (ESG) Report ("Carlsberg Group ESG Report") on pages 75 and 92-97 for the period 1 January – 31 December 2022.

## OUR CONCLUSION

Based on the procedures we performed and the evidence we obtained, nothing has come to our attention that causes us to believe that the selected data in scope for our limited assurance engagement included in the Carlsberg Group ESG Report on pages 75 and 92-97 for the period 1 January - 31 December 2022 has not been prepared, in all material respects, in accordance with the accounting policies developed by Carlsberg A/S as stated in the sections "Reporting Process and Scope" (pages 99-100), "Indicator Definitions" (pages 101-133), "List of Reporting Sites" (pages 134-135) and "Tax Contribution

Principles" (pages 136-137) of the Carlsberg Group ESG Report for the period 1 January – 31 December 2022. This conclusion is to be read in the context of what we say in the remainder of our report.

## SELECTED DATA IN SCOPE

The scope of our work was limited to assurance on selected data in the Carlsberg Group ESG Report for the period 1 January – 31 December 2022, in the sections "Tax Contribution" and "Data Summary Table" (pages 75 and 92-97), which include:

### Tax contribution (page 75)

Corporate income tax (DKK bn); Taxes borne, and excise duties collected (DKK bn); Excise duties (DKK bn).

### Energy, carbon and water (page 92-94)

Total production of beer and soft drinks (million hl); Total thermal energy consumption (GWh); Total electricity consumption (GWh); Total water use (million m<sup>3</sup>); Total CO<sub>2</sub> emissions (from direct and indirect

fuel consumption) (market-based) (kt); Total CO<sub>2</sub> emissions (from direct and indirect fuel consumption) (location-based) (kt); Total CO<sub>2</sub> emissions from refrigerants (kt CO<sub>2</sub>); Scope 1 – Absolute CO<sub>2</sub> emissions (excl. Logistics) (kt CO<sub>2</sub>); Scope 2 – Absolute CO<sub>2</sub> emissions (kt CO<sub>2</sub>) – Market-based; Scope 1+2 – Absolute emissions (Together Towards ZERO 2015 baseline) (kt CO<sub>2</sub>); Percentage of electricity from renewable sources (%); Number of sites using coal (number).

### Relative figures for beer and soft drinks production (page 93)

Thermal energy (kWh/hl); Electricity (kWh/hl); Combined energy (thermal and electricity) (kWh/hl); CO<sub>2</sub> emission (kg CO<sub>2</sub>/hl); Water (hl/hl).

### Health and safety (page 95)

Number of lost-time accidents (Production); Lost-time accident rate (Production); Number of lost-time accidents (Logistics); Lost-time accident rate (Logistics); Number of lost-time accidents (Sales & Marketing); Lost-time accident rate (Sales & Marketing); Number of

lost-time accidents (Administration); Lost-time accident rate (Administration); Number of lost-time accidents (Carlsberg Group); Lost-time accident rate (Carlsberg Group); Number of lost-time accidents, contractors; Number of lost-time accidents, members of the public.

### Responsible drinking and marketing communication (page 96)

Percentage of fermented produced volume that carry legal age-restriction symbol or equivalent text; Percentage of fermented produced volume that lists nutritional information; Percentage of fermented produced volume that lists ingredient information.

### Diversity, equity and inclusion (page 97)

Percentage of women in senior leadership roles.

We do not provide any assurance on the achievability of the Carlsberg Group's objectives, targets and expectations.

## PROFESSIONAL STANDARDS APPLIED AND LEVEL OF ASSURANCE

We performed a limited assurance engagement in accordance with the International Standard on Assurance Engagements 3000 (Revised), 'Assurance Engagements other than Audits and Reviews of Historical Financial Information' and, in respect of the greenhouse gas emissions stated on pages 92-94, in accordance with International Standard on Assurance Engagements 3410 'Assurance engagements on greenhouse gas statements', issued by the International Auditing and Assurance Standards Board. Greenhouse Gas emissions quantification is subject to inherent uncertainty because of incomplete scientific knowledge used to determine emission factors and the values needed to combine emissions of different gases.

A limited assurance engagement is substantially less in scope than a reasonable assurance engagement in relation to both the risk assessment

procedures, including an understanding of internal controls, and the procedures performed in response to the assessed risks; consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.

#### **OUR INDEPENDENCE AND QUALITY CONTROL**

We have complied with the independence requirements and other ethical requirements in the International Ethics Standards Board for Accountants' International Code of Ethics for Professional Accountants (IESBA Code), which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour and ethical requirements applicable in Denmark.

PricewaterhouseCoopers applies International Standard on Quality Control 1 and accordingly maintains a comprehensive system of quality control, including documented policies and procedures regarding compliance with ethical requirements, professional standards, and applicable legal and regulatory requirements.

Our work was carried out by an independent multidisciplinary team with experience in sustainability reporting and assurance.

#### **UNDERSTANDING REPORTING AND MEASUREMENT METHODOLOGIES**

Data and information need to be read and understood together with the accounting policies ("Reporting Process and Scope" pages 99-100, "Indicator Definitions" pages 101-133, "List of Reporting Sites" pages 134-135, and "Tax Contribution Principles" pages 136-137, which Management is solely responsible for selecting and applying.

The absence of a significant body of established practice on which to draw to evaluate and measure non-financial information allows for different, but acceptable, measurement techniques and can affect comparability between entities and over time. The accounting policies used for the reporting of selected data are for the 2022 reporting year for the continued operation.

#### **WORK PERFORMED**

We are required to plan and perform our work in order to consider the risk of material misstatement of the data. In doing so and based on our professional judgement, we:

- made enquiries of relevant Carlsberg management;
- evaluated the design of the key structures, systems, processes and controls for managing, recording and reporting the selected indicators. This included 3 site visits selected on the basis of their inherent risk and materiality to the group, to understand the key processes and controls for reporting site performance data and to obtain supporting information;
- conducted analytical reviews of the selected indicators submitted by all production sites and companies in the group for consolidation;
- performed limited substantive testing on a selective basis of the selected indicators to check that: (i) data had been appropriately measured, recorded, collated and reported; and (ii) activities set out by management are appropriately evidenced and reported;
- reconciled selected tax information with the audited consolidated financial statements of Carlsberg A/S; and
- assessed the disclosure and presentation of the selected indicators.

#### **CARLSBERG'S RESPONSIBILITIES**

Management of Carlsberg A/S is responsible for:

- designing, implementing and maintaining internal controls over information relevant to the preparation of data in the Carlsberg Group ESG Report that is free from material misstatement, whether due to fraud or error;
- establishing objective accounting policies for preparing data;
- measuring and reporting data in the Carlsberg Group ESG Report based on the accounting policies; and
- the content of the Carlsberg Group ESG Report for the period 1 January – 31 December 2022.

Hellerup, 7 February 2023

#### **PricewaterhouseCoopers**

Statsautoriseret Revisionspartnerselskab  
CVR no. 3377 1231

Mogens Nørgaard Mogensen  
State Authorised Public Accountant  
mne21404

#### **OUR RESPONSIBILITIES**

We are responsible for:

- planning and performing the engagement to obtain limited assurance about whether selected environmental, health & safety, social and economic contribution data in the 2022 Carlsberg Group ESG Report is free from material misstatement, and has been prepared, in all material respects, in accordance with the accounting policies;
- forming an independent conclusion, based on the procedures we have performed and the evidence we have obtained; and
- reporting our conclusion to the stakeholders of Carlsberg A/S.

Michael Groth Hansen  
State Authorised Public Accountant  
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