



2021

Environmental, Social and Governance Report

Tsingtao Brewery Co., Ltd.

About this report

Scope of reporting

This is the 14th annual sustainable development report published by Tsingtao Brewery Co., Ltd. The data and information contained herein cover the operations and sustainable development practices of 58 wholly owned or holding subsidiaries in China, and two jointly owned or operated breweries under Tsingtao Brewery Co., Ltd. from 1 January to 31 December, 2021. To ensure continuity and for the convenience of comparison, some of the data and information provided are not limited within the year 2021.

Content selection

This report focuses on the responsibilities of Tsingtao Brewery with regard to the sustainable development on products, environment, community, employees and business partners from multiple facets including environmental, social and governance performances, based on principles such as significance, quantification, consistency, balance, accuracy, validity, and comparability etc. The collection of data and information in this report has been conducted in accordance with the company's existing working processes.

Editorial policy

This report is drafted in compliance with the *Self-regulatory Guidelines for Listed Companies No.1: Standard Operations* of the Shanghai Stock Exchange, the *ESG Reporting Guide* issued by the HKEX, with reference to the *Global Reporting Initiative (GRI) G4*, the *Corporate Environmental Reporting Guidelines of Shandong Province* and relevant requirements on sustainable development reporting and publishing by the State-owned Assets Supervision and Administration Commission.

Explanation of short titles

Tsingtao Brewery Co Ltd. is hereinafter referred to as "Tsingtao Brewery", "the company" or "we" in the report. Tsingtao Brewery owns the copyright on this report.

The way we publish this report

The report is available in print and online. For online edition, please visit <http://www.tsingtao.com.cn>.

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Sustainable development indicators of Tsingtao Brewery



Economic responsibility



The company always attaches great importance to the returns for investors. Since the company was listed in 1993, the total cash dividend has

reached **8.892** billion yuan by the end of 2020.

Sales volume / 10,000 kL

793.09

Sales revenue / hundred million yuan

301.67

Net profit attributable to shareholders of the parent company / hundred million yuan

31.55

EPS / yuan

2.33

Social Contribution Value Per Share (SCVPS) / yuan

10.50

Environmental responsibility



5

factories recognised as National Green Factories of 2021 by the Ministry of Industry and Information Technology

Carbon emissions density per
unit product dropped by

11 %

Share of utilised electricity generated
from renewables grew by

17 %

SO₂ emission dropped by

47 %

NO_x emissions dropped by

15 %

Social responsibility



In 2021 Tsingtao Brewery donated

2,000,000

yuan in aid of the "Shandong-Tibet Happy

Homeland Construction Project"

By the end of 2021 the company donated to the Tsingtao
Brewery Scholarship with an aggregate of

6,380,000 yuan

In support of programmes for the disabled, the company
donated a total of

2,160,000 yuan

In 2021 Tsingtao Brewery donated

959,000 yuan for its "Employee Care Fund"

The "Employee Care Fund" helped

14 employees

with a total spending of over

460,000 yuan

Message from the Chairman



The year 2021 was a remarkable year in which we witnessed monumental events in the history of our Party and our nation. Tsingtao Brewery stood firm on the basis of quality Party building work to realise quality corporate development with new multi-dimensional leap-forward. The company once more created a new historical record as it always did in the past years and actively practised corporate social responsibility. The milestone in its century of development was built, and a new era of quality leap-forward in the 14th Five-Year Plan period was brought in.

Sustainable quality development driven by innovation

In the year 2021, Tsingtao Brewery broke its own records once more with 7,930,900 kL in sales volume which was worth 30.167 billion yuan and realised 3.155 billion yuan as net profit attributable to shareholders of the parent company. The company has been on top of China's beer brand ranking for 18 consecutive years with a brand value of 198.566 billion yuan.

While the 100th anniversary of the founding of the Communist Party of China was celebrated, the company's Party committee was recognised as one of the national advanced primary-level Party organisations. The honour has become the new starting point to the new journey of endeavour and the inexhaustible driving force for Tsingtao Brewery to move on in a sustainable way.

Innovation: the SOUL of quality development

The year 2021 witnessed the vitality and creativity of the 118-year-old Tsingtao Brewery in its interaction with the new era, which was sparkling with freshness and strength. We stayed firm with our craftsmanship, inspired dynamics of innovation, improved the attraction of product quality and sublimated the vitality of the brand. In this way the company gained stronger drivers for quality and sustainable development.

In terms of product innovation, Tsingtao Brewery grew from "one-size-fits-all" to "a series of products" with the help of its key national laboratory which was the only one in China's brewery industry. New products including *A Legend in a lifetime*, *Tsingtao Centennial Journey* and *Tsingtao Amber Lager* were created in order to fulfil consumers' diversified consumption demands. In terms of production process innovation, the company promoted digital smart transformation, turning on the lighthouse of the industrial internet, realising the transformation from mass production to flexible and tailored production, in order to meet the specialised and customised demands of consumers. In terms of logistics innovation, the company transformed from traditional to smart logistics, fulfilling consumers' needs for fresh and timely delivery. In terms of sales innovation, the experience of new sales and immersive consumption experience met consumers' demands of convenient and scenario-based shopping. In terms of management mode innovation, the "attractive quality management mode based on digitalised end-to-end decoding" was created, which won first prizes of the *Nomination Award of China Quality Award* and the *National Enterprise Management Modernisation Innovation Achievement Award*. In terms of cultural innovation, the company's development was empowered by the new version of corporate culture "staying true to traditional standards while promoting innovations, and keeping the promise for further achievements". In terms of strategic innovation, the quality leap-forward strategy was created based on essential modules of "happiness", "health" and "fashion" as well as the smart supply chain, and preparation was made for building the world-class consumption ecosystem.

We firmly believe that that innovation is not limited by the age or industrial sector. Tsingtao Brewery's past experience is a history of innovation. The company participated as a global competitor for the past century with full vigour, thanks to generations of Tsingtao Brewery people's persistence on craftsmanship and their innovative spirit as an internal driving force.

In the year 2022 Tsingtao Brewery will stay confident for the new era and be the pioneer of quality development. The company will strengthen the

sense of responsibilities of innovation and improve its power of innovative development. We will continue to meet people's demands for a better life and promote quality development with continued innovation, creating more value for consumers, employees, investors, value chain partners, the community and the whole society at large.

Sense of responsibility is the background of sustainable development

Quality development is driven by innovation, and sense of responsibility is the cornerstone for development.

At critical moments when combatting the COVID-19 and battling the torrential rain hazard in Zhengzhou, we promptly took actions to help. The company also participated in actions including poverty reduction in pairs, initiating responsible drinking, establishing scholarships, caring for the community and bringing warmth to those in need. We have performed our social responsibility with our solid actions, showing our sense of responsibility.

We care for our own employees and create more platforms and opportunities for them through organisational and cultural innovation in order to share the outcome of the company's development with them. We have innovated our industrial chain mode, created digitalised and intelligent platforms, to share the value with providers and distributors with optimised efficiency.

We actively performed the environmental concept "for a better world", realised digital innovation and transformation through smart manufacturing, and continued to reduce the comprehensive energy consumption and greenhouse gases emissions. In 2021 the "brewing wastewater value sharing programme" of Tsingtao Brewery was launched to share the value, benefits and responsibilities for both the company and the community.

As a sponsor for both the Beijing 2022 Winter Olympics and the Beijing 2022 Winter Paralympics, Tsingtao Brewery has carried on with its unique advantages in product, market and brand. The company put Winter Olympic sports onto the products to promote Winter Olympic spirits. We have innovated the form of experience and set up master courses on winter sports to encourage more people to access winter sports with the power of our brand.

Innovation is the root for the century-old brand's vigour. And economic and social benefits are developed side by side as the company's duty performed. In 2022 Tsingtao Brewery will firmly carry out the development strategy of quality leap-forward, continue to strengthen its role as an innovator, keep on creating quality outcomes in business operations with solid work and endeavouring spirit, further improve its persistence and capability for sustainable development and forge ahead towards a more harmonious and beautiful future.

Chairman, Tsingtao Brewery Co., Ltd.



About us

Our company

The predecessor of Tsingtao Brewery Co., Ltd. (hereinafter referred to as "Tsingtao Brewery") is the Anglo-German Brewery Co., Ltd. which was founded by German and British settlers in the city of Qingdao in August 1903. Tsingtao Brewery is the earliest brewery in China. According to the 2021 ranking of the Top 500 Most Valuable Brands in China published by the Global Brand Lab, Tsingtao Brewery has been on top of Chinese beer industry for the 18th consecutive year with a brand value of 198.566 billion yuan.

Tsingtao Brewery was listed on the Hong Kong Stock Exchange and the Shanghai Stock Exchange Market in 1993, becoming the first Chinese company to be listed on both markets.

Until the end of 2021, the company has 58 wholly owned or holding subsidiaries and two jointly owned or operated breweries in 20 provinces, municipalities and autonomous regions in China, boasting the leading position in China's beer industry in terms of enterprise scale and market share.

As the most renowned Chinese beer brand in the international market, Tsingtao Brewery is selling its products to over 100 countries. The sales volume for the markets along the Belt and Road grew by 10% and for SCO countries grew by 58%.

While the 100th anniversary of the founding of the Communist Party of China was celebrated, the company's Party committee was recognised as one of the national advanced primary-level Party organisations.

In the wake of becoming the official sponsor for the Olympic Winter Games Beijing 2022, Tsingtao Brewery once again became the sponsor to the Paralympic Winter Games Beijing 2022.



Corporate culture

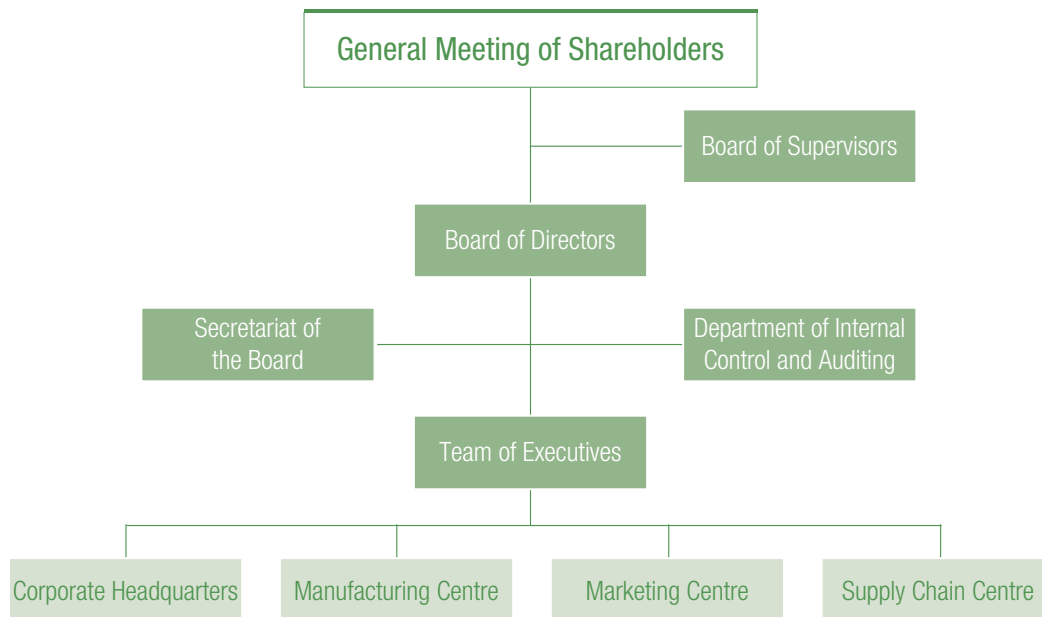
Vision	Mission	Core values	Corporate spirit
To become a first-class company in the world with brands of global influence	Creating joy for life	staying true to traditional standards while promoting innovations keeping the promise for further achievements	Forging ahead with determination Striving for excellence

Corporate governance

Since the company went public, Tsingtao Brewery has been developing an advanced system of corporate governance that conforms to international standards and continues to improve with pioneering mind and actions. Information such as the performance and major happenings of the company is accurately disclosed. On 28 June 2021, the company held the annual general meeting of stockholders and passed the proposal for the elections of board of directors and board of supervisors. And there were eight members of the tenth board of directors with Tsingtao Brewery, of which three were executive directors, one was non-executive director and the other four were independent directors. There were seven members of the tenth board of supervisors with Tsingtao Brewery, of which four were shareholding supervisors and three were employee supervisors. The company is the first listed domestic company with a board in which external directors and supervisors account for the majority of the board of directors and the board of supervisors respectively. The incumbent independent directors come from different professional backgrounds and are richly experienced in legal affairs, accounting and financial investment etc.

The board of directors revised the rules of the strategic and investment committee, delegating the duty of comprehensive monitoring and governing of the ESG-related matters to the latter.

The company attaches great importance to the management of investor relations with active planning and promotion and keeps consolidating our communication with investors from around the world. In 2021 the company initiated many regional and hierarchical meetings to explain the performance, organised investor communication events with the participation of high-ranking staff including the chairman, CFO and board secretary, and promoted investor relations management with digital methods. Meanwhile, we continued to communicate with international investors through telephone conferences, and actively participated in the group activities for training and protecting investors of local listed companies. The company's outstanding performance was recognised by the capital market and the stock price of Tsingtao Brewery in China's A-share market reached a new historical high for the past 28 years since it went public in 1993.



Honours won in the capital market



The disclosure of Information has been recognised by the Shanghai Stock Exchange for eight consecutive years and the company keeps its Grade A ranking.

Outstanding IR Company and Sound Organisational Communication of the Quanjing Investor Relations Gold Award 2020

Company of the Year with the Highest IR Value and Board Secretary of the Year of the Jinglun Award 2021

Outstanding Practice Case of the Chairman's Office in 2021

Advanced Unit on Investor Protection in Qingdao for 2021

Risk control and management

In 2021 when facing new circumstances of the new business mode in beer industry, the company accelerated its innovation on management by improving its risk management system to tackle the negative influences by uncertain factors from both inside and outside.

The company continues to improve its internal control system for the business goals of the year. With risk assessment and internal control evaluation on new business modes and high-risk fields, and in-compliance auditing, economic responsibility auditing and engineering project auditing on high-risk fields as well as cost consultation and supervision, the company's efficiency and outcome of management are improved and the quality leap-forward strategy was promoted.

Business ethics and compliance with regulations

Tsingtao Brewery always strictly follows the *Constitution of the People's Republic of China*, the *Supervision Law of the People's Republic of China* and the *Criminal Law of the People's Republic of China*, and implements related provisions of the *Anti-unfair Competition Law of the People's Republic of China* and the *Law of the People's Republic of China on Anti-money Laundering* in the course of cracking down on bribery, blackmailing, fraud and money laundering.

The company attaches great importance to business ethics and compliance with regulations. Employees are told to work honestly, cleanly, in compliance with the rules and laws, and carry out duties properly. The company constantly improves managing rules and rectifies employees' behaviours with full control of risks on compliance. Through monitoring and checking, in-compliance inspections, special auditing and responsibility investigation, the company has prevented and diminished in-compliance-related risks and ensured lawful business operation.

In 2021 the company conducted trainings on business ethics and compliance with regulations with focus on cautioning employees on key delicate positions. 2,117 people times of dialogues were conducted on job competency and integrity, and 518 high and medium level managing staff reported their performances in accordance with comprehensive and strict Party governance. The company set up hotlines and emails for appeals and let a special department to deal with the cases. For the past year no cases of violation to rules or laws were found due to influences by bribery, blackmailing, fraud or money laundering.

Intellectual Property Rights

Tsingtao Brewery highly respects and protects IPR and strictly abides by IPR related laws and regulations of the People's Republic of China including but not limited to the *Trademark Law of the People's Republic of China*, *Patent Law of the People's Republic of China* and the *Copyright Law of the People's Republic of China*, and implements all its IPR management rules. Under the strategic goals the company actively promotes its IPR management system and passed the IPR management system verification once more in November 2021. The company's constant improvement on IPR management, effectively helped its high-quality innovative development.

Environmental, social and governance system

Tsingtao Brewery insists that sustainable development is the cornerstone for business success. The company keeps on sustainable development by improving its social responsibility management system, levelling up its management, providing quality products and service, and creating shared values for employees and upstream and downstream value chains. As a responsible corporate citizen, Tsingtao Brewery always keeps responsibility in mind and actively practises corporate social responsibilities, contributing to society, economy, community and the environment, helping the whole society and the nation at large with sustainable development.

Environmental, social and governance framework

Decision making: the CPC Tsingtao Brewery Committee, the board of directors and the president's meetings hold routine review conferences on corporate social responsibility topics, through which tasks and requirements of functional departments are clarified and the execution of social responsibility management is promoted.

Tsingtao Brewery has set up the strategic and investment committee of the board of directors for the following work: reviewing the company's ESG policies and strategies to make sure their compliance with laws, regulations and standards; evaluating and sorting of ESG risks and opportunities and advising the board of directors; reviewing the company's ESG and internal monitoring systems, and advising the board of directors on appropriateness and effectiveness; reviewing and monitoring the ESG goals and implementation, assessing the work and advising the board of directors; reviewing the published ESG report and advising the board of directors; helping the company to set its ESG vision, goals and strategies and advising the board of directors.

Supervising: Tsingtao Brewery has set up a leading group on ESG work to look into details according to the overall ESG strategy and orientation; to identify ESG risks and conduct evaluation on significance, both internal and external; to make ESG plans, set up goals and key performance targets and follow up; to identify the ESG source, set up rules of management and performance appraisal on data collecting; to plan, coordinate and guide ESG units for implementation of ESG management and report to decision makers at regular intervals; and complete other related work on the ESG compilation etc.

Executing: Tsingtao Brewery has set up a special group covering all departments and units to do the job within its functions, achieving ESG goals and key performance indicators; collecting, processing and reporting related information regularly to provide dynamic feedbacks on current status and advising on the current work.

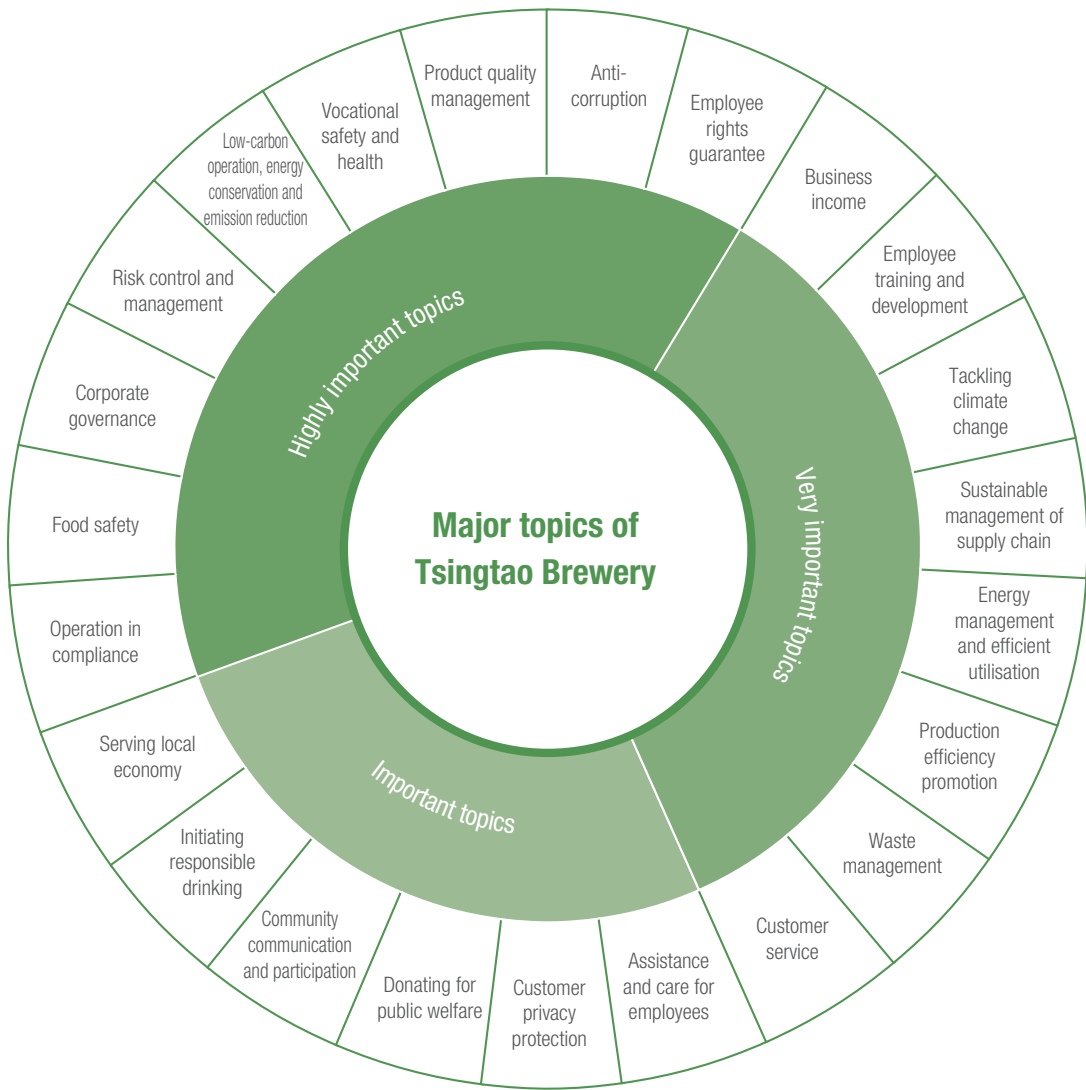
Communication with stakeholders

Tsingtao Brewery communicates with internal and external stakeholders in various forms to understand their opinions on ESG topics. The key stakeholders of the company include consumers, environment, stockholders, employees, business partners, community and NGO, as well as governments. The company's capability on sustainable development and quality development can be promoted by understanding well the expectations and feedbacks for Tsingtao Brewery's sustainable development.

Stakeholders		Our responsibilities	Communication methods
Consumers		<ul style="list-style-type: none"> • Providing safe and high-quality products • Multiple product choices • Quality and complete customer service 	<ul style="list-style-type: none"> • Product brands • Publicity • Interactions • Customer service hotline • Corporate website • E-commerce platform • Immersive experience
Environment		<ul style="list-style-type: none"> • Eco-environment protection • Green and low-carbon development • Recycling economy development 	<ul style="list-style-type: none"> • Open information • Environmental information exchange platform • Promotion of environmental protection for public welfare
Shareholders		<ul style="list-style-type: none"> • Steady operation in compliance • Maintenance and appreciation of assets value • Rational and sustainable returns available • Timely reporting of major issues 	<ul style="list-style-type: none"> • Corporate annual reports and announcements • General or special meetings of shareholders • Road shows • Official website and information platform of exchanges
Employees		<ul style="list-style-type: none"> • Safe and healthy environment for working • Perfect salary and welfare guarantee • Platform for career development • Employees' work and life taken care of 	<ul style="list-style-type: none"> • Safety and health management • Employee representatives' meetings • Training and exchanges, skill competitions • Email correspondence, visits, consolations and valuable suggestions
Business partners		<ul style="list-style-type: none"> • Mutual benefit and win-win • Common development 	<ul style="list-style-type: none"> • Conferences for suppliers and distributors • Assistance and training • Timely sharing and exchanging of information
Communities and NGOs		<ul style="list-style-type: none"> • Frequent participation in events on public welfare and charity • Helping community development 	<ul style="list-style-type: none"> • Exchange events • Social media • Onsite visits • Corporate website • Public welfare activities
Government		<ul style="list-style-type: none"> • Operation in compliance • Paying tax in accordance with law • Contributing to local economic growth • Employment promotion 	<ul style="list-style-type: none"> • Policy consultation • Special reports • Information reveal

Identification of major topics

List of major topics is sorted out from concerned topics of stakeholders and the company that identified via case analysis, based on the different levels of importance and interests of topics.



118 years just for brewing good beer

Attractive quality management mode based
on digitalised end-to-end decoding

6 precision decoding and
transmitting procedures

Over 1,800 quality testing points



Chief Brewer, Tsingtao Brewery (Baoji) Co., Ltd.,
winner of the Best Product Quality Award in 2021

Wang Yue



Veteran brewer with Tsingtao Brewery
Chief Brewer, Tsingtao Brewery (No. 2) Co., Ltd.,
winner of the Best Product Quality Award in 2021

Liang Gang



Winner of the Best Product Quality Award in 2021
Former Chief Brewer, Tsingtao Brewery Shanghai Songjiang
Manufacturing Co., Ltd.,
Now CTO, Production Technology Management Department

Xu Yong



Senior brewer with Tsingtao Brewery
Chief Brewer, Tsingtao Brewery (No. 3) Co., Ltd.,
winner of the Best Product Quality Award in 2021
Yin Yan



Veteran brewer with Tsingtao Brewery
Chief Brewer, Tsingtao Brewery Co., Ltd.,
winner of the Best Product Quality Award in 2021
Zhang Pei



CTO, Shandong Yantai Beer Co., Ltd.,
winner of the Best Product Quality Award in 2021
Yun Polan

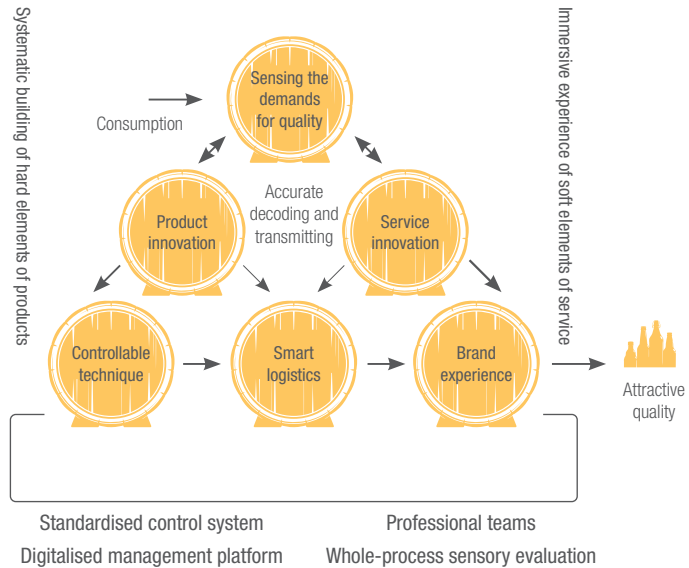


Deputy Chief Brewer, Shenzhen Tsingtao
Brewery Asahi Co., Ltd., winner of the
Best Product Quality Award in 2021
Huang Jinghui

Attractive quality management mode

Tsingtao Brewery has developed the “attractive quality management mode based on digitalised end-to-end decoding” on the previous practice of building “attractive quality”. And the company attaches importance to the “basic demands”, “shifting demands” and keeps on exploring and guiding the “potential demands” of consumers.

The mode is based on “systematic making of the physical product elements” and “serving immersive experience of soft elements”, starting from consumers’ demands, undertaking six major precision end-to-end decoding and transmitting actions, covering “attractive quality demands, product innovation, controllable techniques, service innovation, smart logistics and brand experience”, and creating joy for life with digitalised end-to-end precision decoding and transmitting from both “product” and “service” paths with whole-process quality management.



Attractive quality management mode based on digitalised end-to-end decoding

Six major precision decoding actions

Accurate decoding of demands: the company created the five-channel survey on consumer demands, promoting the change from “sketch portray” to “accurate portray”;

Accurate decoding of products: the company created 79 kinds of products in nine series to meet consumers’ diversified demands from “one-size-fits-all” to “a series of products”, breaking the ceiling of high-end beer products time and time again;

Accurate decoding of techniques: the company created the decoding matrix from “product index” to “technical standard” with multiple key technologies and designed the recipe and technical parameters;

Accurate decoding of service: promoting tailored service;

Accurate decoding of logistics: “smart logistics” to connect the product to the tip of your tongue, intact, timely and fresh;

Accurate decoding of experience: creating new mode of immersive brand experience to meet the scenario-based consumer demands with over 200 TSINGTAO1903 pubs in the whole nation and over 50 Tsingtao Beer Festivals.



Winning the Nomination Award of China Quality Award

The Station Administration for Market Regulation's Quality Development Bureau announced the fourth nomination list of the China Quality Award in 2021. And Tsingtao Brewery won the Fourth Nomination Award of China Quality Award again after its first time to win this award in 2017. The China Quality Award is China's highest quality award, comprising the China Quality Award and the Nomination Award of China Quality Award. It was the fourth awarding ceremony of this biennial event.

Taking quality as the great legacy of its 118 years of history, Tsingtao Brewery focuses on the extra-expectation experience for global customers and try to expand the singular attractive quality to all-round attractive quality which contains brands, service, beer culture, customer experience and corporate management. The company has been exploring the whole process from product development, supply chain, production, logistics to service to build sensory quality index system, and to ensure the quantitative realisation of the sensory quality and turn into quality operation outcomes.



Winning the first prize of the National Modern Corporate Management Innovation Outcomes

In December 2021, the 28th National Modern Corporate Management Innovation Outcomes were announced. And Tsingtao Brewery won the first prize of the National Modern Corporate Management Innovation Outcome for its exploration and practice in the sensory quality management system, becoming the only beer or beverage company to win the first prize.

The prize is co-sponsored by the China Enterprise Confederation, the Industrial Policy Department and the Small-and-Medium-Sized Companies Administration of the Ministry of Industry and Information Technology, and is the highest and most influential national outcome in domestic corporate management. It is ultimately important to promote corporate management level, improve corporate competitiveness and increase business benefits for domestic companies with the research outcomes through experiences accumulated in the corporate management innovation practice in our country.



关于发布和推广第二十八届全国企业管理现代化创新成果的通知

省、自治区、直辖市、新疆生产建设兵团、计划单列市企业管理现代化创新成果审定委员会、管理现代化工作委员会、联合会，各全国性行业协会，各有关企业：

Food safety policy

Tsingtao Brewery strictly abides by the national and local laws and regulations such as the *Food Safety Law of the People's Republic of China*, *Regulation on the Implementation of the Food Safety Law of the People's Republic of China*, the *Product Quality Law of the People's Republic of China*, the *Administrative Measures for Food Production Licensing*, the *Administrative Measures for Food Operation Licensing*, and the *Measures for the Administration of Food Safety Sampling and Inspection*. The company instantly implemented national food safety standards as corporate internal control standards and ensured product indexes and production hygiene rules up to national standards according to national laws and regulations. We have implemented comprehensive hazard analysis and risk assessment on raw materials, production, packaging, storage, transport and other processes to identify and strictly controlled the critical control points in order to provide consumers with satisfying quality beer.

Strategic management on food safety

Tsingtao Brewery has built a food safety management system of its own covering the whole life circle of products with HACCP, TACCP, and VACCP. Food safety is our first priority in strategic management and quality control. The company has built a closed-loop control process for food safety. Meanwhile we have established and improved our food safety accountability system, enhanced the food quality and safety responsibility system, underlined the importance of prevention, prevented food safety hazards and ensured product quality.

Product safety control throughout the whole chain

Tsingtao Brewery conducts whole-supply chain quality management, continuously improving the whole-process quality control including source material, production procedure, logistics and marketing, covering over 30 management processes including the GMP, hazard analysis in production process and food safety management. The company has implemented the food safety red card and yellow card system, improved the food safety checklist management system, and consolidated the primary responsibility for food safety, staying firm with the bottom line by implementing the primary responsibility management to ensure food safety.

Benchmarking international food safety standards in quality control

- Extend the food safety monitoring standard to advanced countries and regions including Europe, North America, Japan and ROK
- Conduct risk screening and control with beer and major raw materials by building risky substance testing database and making it internationally advanced

Strict control on the source

Establishing strict qualification management of suppliers, implementing strict material control risk monitoring with all raw material monitoring moved to the upper stream supply chain and control at the major raw material farms.

Strictly observe the managing rules of accessing standard set for provider quality management, and veto the problematic provider whenever there is a problem with their qualification management, product monitoring and on-site auditing, ensuring the quality safety from the beginning.

Strict control on risks

Build food safety monitoring platform for beer products, formulating strict sampling procedures, exercising third-party independent sampling and testing measures, observing the whole-range product and raw material coverage monitoring principle, and conducting targeted risk control.

Strict control on the process

Setting up standardised quality management systems and modes in all manufacturers to effectively control quality and ensure food safety, building the quality monitoring and control system to implement the quality control covering the whole process of products connecting processes such as raw materials, production, logistics and terminals.

Tsingtao Brewery set special food safety emergency plans to recall any unsafe products on the market according to the nation's *Administrative Procedures for Food Recalls*. No cases of product recall due to safety or health hazards ever happened with Tsingtao Brewery in 2021.

Choosing each quality ingredient

- Water: the water for brewing has to pass seven phases of processing and over 100 rigorous tests to make sure it meets the criteria.
- Century-old yeast: we use pure German beer yeast and transport optimum yeast strains to each of our breweries regularly.
- Barley: we choose fully matured and bright quality barley from specific regions across the globe. Rigorous testing procedures are followed at every level of operation from choosing origin, selecting of variety, planting and harvesting to transport and storage.
- Rice: we build special production bases and warehouses for rice, entrust designated third party to conduct all-factor testing. The soil, water, air and the whole term of planting in production bases are monitored, while on-site full coverage inspections of rice suppliers are conducted, so as to ensure food safety.

Standard and strict packaging

- Strictly follow national laws and regulations including the *Advertising Law*, *Trademark Law*, *Product Packaging, Marking and Labelling Requirements*, *National Beer Standard* and *National Beer Bottle Standard*, in the process of advertising, labelling and external packaging.
- Continuously improving the evaluation system for outer packaging and add in BSC assessment criteria.
- Onsite checking of the outer packaging quality of products in distributors' warehouses

Smart logistics: supply chain management

- Modernising the whole industrial chain and supply chain from the upstream purchasing to the downstream delivery, managing and predicting consumers' demands, and building a warehousing and delivering system that can quickly access all consumers
- Building a central panel for supply chain information for integrated data management
- Building a mobile ordering platform for visible orders and information sharing
- Operating mobile platform apps for centralised visible control of the transport process
- Improving the overall supply chain efficiency by integrating end-to-end order and market information through control tower, centralising the production, supply and sales of the region, and building digital platforms of regional supply chain
- Using delivery network to integrate resources for mass process to improve logistics resources efficiency and urban delivery service with efficiency and effectivity, reduce transport vehicle exhaust emissions and traffic jams

Advanced and comprehensive service system

- Centred around the company's service philosophy "your need is our work", the customer service centre always works hard to meet customer demands and improve customer satisfaction, constantly optimises operation flow to provide first-class customer service for the market
- Advanced information management system, mini programmes including "smart customer service", "customer service information feedback terminal" and "questionnaire on customer satisfaction", and convenient communication channel connecting consumers to promote the efficiency and quality of customer service
- Building the three-stage customer service network with frontline units and big retailing clients around customers in the centre, realising "no-seam service" with quick coordination actions in response to market feedbacks, in which customer service staff promptly respond to customer complaints within 20 minutes of information
- In 2021 the customer service centre processed 5,124 cases of customer complaints with over 99% solved, in which 66.7% are complaints due to broken products happened in logistics and market end processes, and 27.5% are due to service processes.
- Tsingtao Brewery pays high attention to information management and consumer privacy protection with in-compliance storage, transmission and application of all market information, and improves the market information protection mechanism. The company requires related staffs to abide by national secrets laws and regulations as well as the *Secrets Code of the Tsingtao Brewery*, and specifically issues privacy clauses to avoid market information leak or loss, undertaking the duty of confidentiality and protecting information security.

All-round product quality monitoring system

Conducting strict product quality inspection

The company has built a unified testing standard system with special care to each bottle of Tsingtao Beer which goes through over 1,800 quality testing procedures. A unified set of testing measures was built and ERP quality data system was applied for statistical analysis, quality improvement, and overall quality monitoring.

The company formulated a series of standard documents including the *Minimum Inspection Frequency of Auxiliary Ingredients and Processing Agents for Brewing*, and conduct batch-by-batch inspection and acceptance with raw material and ingredients before they move forward to production stage.

The company formulated the internal control standards for semi-finished products and finished products, and built 433 SOPs (Standard Operating Procedures) for inspection. All semi-finished products and finished products in production process will be inspected and checked in accordance to the *Minimum Inspection Frequency of the Physicochemical Analysis of Auxiliary Ingredients and Processing Agents for Brewing* and the SOP system. Each batch of products shall be examined according to the executive standard of products before they go into the market.

Observing the “six-uniform management” on quality control and ensuring uniform standard in all factories

The quality control system is based on the “six-uniform management” of “uniform testing method, uniform instrument, uniform staff, uniform management, uniform ERP data system and uniform quality control evaluation”. We guarantee the quality control in compliance by optimising efficient testing methods, applying internationally advanced digital testing machines, training the QA staff to be multiply capable, optimising lab management, expanding the automatic analysing capability of the ERP data system, adopting the company’s uniform control sample for testing, further building the efficient quality control system, raising QA efficiency, and constantly carrying out strict quality controls.

Implementing whole-chain, all-round and end-to-end product quality monitoring

The company is the first in the industry to exercise third-party independent sampling and testing measures, observe the whole-range product coverage monitoring principle, and conduct special monitoring to closely examine key problems and hazardous projects and prevents quality risks.

The company implements pre-management procedures of raw material supply and key index control at the manufacturing end. Logistics quality and whole shelf-life freshness are managed, and whole-lifecycle quality site monitoring of fresh products is undertaken, in which way the company can continue to improve product quality with risk pre-caution and closed-loop control.



During the National “Quality Month” of 2021 activities organised by the State Administration for Market Regulation, Tsingtao Brewery won honours including the *National Quality Integrity Benchmark Enterprise* and the *National Quality Inspection Stability Qualified Product*.

Attractive quality improved with digitalised efficient product evaluation and management

National-level jury for quality inspection

The company has developed its own tasting skill training and evaluation system to develop its own team of tasters for digitalised efficient management on tasting. During the 2020 national beer taster appraisal and recruitment activities, Tsingtao Brewery kept leading the industry with its overwhelming contribution of 42% of all tasters.

Building attractive sensory quality tasting standards

Under the company's attractive quality management mode based on digitalised end-to-end decoding, the attractive sensory quality tasting standard system is built for proposing detailed requirement and pilot run of the consumers' sensory tasting standards. A brand-new form of tasting activities were held for 540 times in 148 cities and stores, passing on the attractive quality of Tsingtao Beer via sensory tasting to customers.



Quality assistance to the Olympic Winter Games Beijing 2022

As the official sponsor to the Olympic Winter Games Beijing 2022, Tsingtao Brewery implemented the standard requirement by the organising committee and carried out related work according to the authorities of Shandong Province and Qingdao City. The political review of working staff was strictly controlled, strict management and control measures were taken during the whole-chain production and storage processes.

Safety and quality testing for raw material was conducted prior to the national-level sampling inspection, and whole-process quality inspection and national-level jury assessment were implemented to ensure the best quality for the Olympic Winter Games Beijing 2022.



Research and development

Tsingtao Brewery's research and development centre aims at the international technology forefront and conducts research in response to key points on consumer demands and industrial concerns, in order to solve key technical problems constantly. With the unique flavour mapping technique, the decoding of consumer demands turned from "sketch portray" to "accurate portray", which not only met the basic demands of consumers, led the shifts in demands, but also explored the potential demands of customers.

Strong R&D capabilities of Tsingtao Brewery



- Equipped with the Key National Lab on Beer Fermentation Engineering, the only lab within brewery industry which was identified as one of the first key laboratories of China's light industry
- In 2021 the company participated in the announcing, formulating, drafting and feedback of 5 national standards, in the announcing and formulating of 5 group standards, and enacted 4 corporate standards. There were also 18 patent applications approved and 15 papers published.
- The company won the "13th Five-Year-Plan" Special Technology Progress Award of China's Alcoholic Drinks Industry, the Outstanding Contribution Award of China's Alcoholic Drinks Industry, and the Advanced Group Award of the "13th Five-Year-Plan" Light Industry Technological Innovation.
- The report *Development and Application of the DNA Fingerprint Mapping of Global Hop Variety and Purity Assessment Technology* won the third prize of the Scientific and Technological Progress Award of Qingdao.
- The report *Research and Application of Key Techniques on Maltogenic Amylase Control* submitted by the company won the second prize of the Scientific and Technological Innovation Award of the China National Light Industry Council.
- The report *Study on the DNA Fingerprint Mapping of Global Hop Variety and Purity Assessment Technology* won the first prize of the Scientific and Technological Award of the China Alcoholic Drinks Industry Association.
- The Tsingtao Zero Alcohol Lager won the gold medal of the *European Beer Star 2021*. The mixed flavoured berry lager beer won the China Alcoholic Drinks Industry Association "Green Drinking Award" of New Type Beer, and the Tsingtao Strong won the "Tianlu Award Gold Prize (Three Stars)" of the 2021 China International Beer Challenge.
- There were 10 new products on market and 26 in reserve. The Technical Standard Management Process was reviewed, 1,453 pieces of technical standards were categorised, and 75 technical standards were approved and published.

In November 2021, the new base of the Tsingtao Brewery's research and development centre was launched as a research and development centre integrating multiple functions including international exchanges, brewery innovation, personnel training, consumer testing and technology showcase, and what's more, the national key laboratory "new base" will be built in the Qingdao Oceanec Valley. The project will become a highland of beer brewing technology research, high-level international brewing professionals training, multi-disciplinary brewing technology exchange, and global beer culture transmission and consumer experience with international influence. Tsingtao Brewery will carry on the technological innovation, integrate production, education, research and application, and better serve industrial innovation.

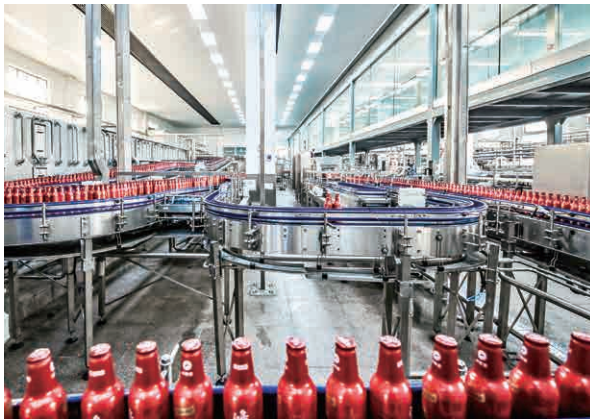


Smart manufacturing

Honoured the World's First “Lighthouse Factory” in the Beer and Beverage Industry

On 15 March 2021, the World Economic Forum announced in Geneva, Switzerland, the global lighthouse network had a new member. The 118-year-old Tsingtao Brewery has become the world's first “lighthouse factory” in the beer and beverage industry.

The “lighthouse factory”, a model of “digital manufacturing” and “globalisation 4.0” selected by the World Economic Forum and McKinsey & Company, is known as “the most advanced factory in the world”. This time, Tsingtao Brewery embraces the industrial internet with courage and vitality, enlightens the new scenario of smart manufacturing with the lighthouse of the beer and beverage industry, and becomes the model of Qingdao's endeavour towards the capital of world industrial internet and levelling up of its competitive advantage of manufacturing.



Quick rise of the beer industry cluster

On 5 November, the 1.2 million kL expansion project was officially launched in the Tsingtao Brewery Smart Industrial Park. Not only the scale of the project was expanded, multiple industrial elements were conglomerated with the complement, extension and strengthening of industrial chains by adding in raw material production, packaging material, logistics and warehousing, commercial circulation, as well as fashion, culture and tourism events. The Tsingtao Brewery Smart Industrial Park will become China's beer production base with the most complete industrial chains, biggest scale and highest intelligent level.

In 2021 there were many projects for Tsingtao Brewery. The Zaozhuang company launched its new project of one million kL production capacity, the relocated and reconstructed one million kL new project of Xi'an Hans started to produce the first bottle of beer, the intelligent upgrading project of Tsingtao Brewery was undertaken, the Chenzhou company built its experience centre, the West Coast Craft Beer Garden was built, the Lulansa company relocated and reconstructed its project of 400,000 kL production capacity, the Rongcheng company relocated and reconstructed its project of 150,000 kL production capacity, the Rizhao company relocated and reconstructed its project of 100,000 kL production capacity, etc. A series of investment projects including technological development, smart manufacturing, smart logistics, digital marketing and cultural experience were accelerated and the digital, smart and experience-based operation was established as a new breakthrough.



Product innovation

The premiere of super high-end new product: Life Legend

On 9 January 2022 the Tsingtao Brewery's "Life Legend" super high-end classic new product premiered at the century-old cellar of Tsingtao Brewery. The product was a state-of-the-art combination of advantages of beer, whiskey, wine and champagne with the brewing technique of the century-old Tsingtao Beer, the wine cask finish of North American classic whiskeys, and the cellaring of European classic wines. The product has a smooth and thick flavour, mysterious amber colour and a multi-dimensional rich taste. The beer in the bottle would transform into an overflowing firework-like mass of foam as champagne does upon opening, with full of sense of ritual.

Tsingtao Centennial Luck for Year of the Tiger

This beer is brewed under surveillance of master brewers with refined raw material and has a smooth, savoury and mellow taste and soft refreshingly sweet aftertaste, sparkling out enchanting amber lustre. As a special design for the Year of the Tiger, the bottle has a unique coding with tiger image which is worth tasting and preserving.

1903 series

The Tsingtao-Beer 1903 series is the representative of lager beers. With specially picked hops and barley, brewed in a long period of time and a low temperature through the two-stage fermentation process originated from 1903, the beer has a taste of wheat and barley and a sparkling natural fragrance. In recent years under the Tsingtao-Beer 1903 section, various themed products have been promoted including the "Snow Tin" series specially designed for the Olympic Winter Games Beijing 2022, the Midnight Diner series, the Chinese Style series and the Night Owl series, with more fashionable appearance to attract young consumers.

Tsingtao White Beer

The product chooses quality barley malt and wheat malt as the only raw grain material and uses perfect European traditional recipe for a refined brew through top fermentation. A unique experience would begin from the first sip of the beer, which has milky foams, nebulous beer body and charcoal-smoked taste with fragrance of lilac and fruits. In 2019 the product won the first prize of the World Beer Championships and in 2020 the renewed packaging won the Red Dot Design Award by the Design Zentrum Nordrhein Westfalen. In recent years Tsingtao Brewery promoted special series of products including the raspberry-flavoured Rose Beer, Cherry Blossom White Beer series and the Van Gogh series, which were widely popular among young consumers.

Hongyundangtou (Good Luck)

Hongyundangtou (Good Luck) is the first festival-themed packaging aluminium-canned beer of Tsingtao Beer, which is the first choice for gifts and dinners. The surface of the Chinese red aluminium package is decorated with Chinese traditional auspicious clouds pattern and "Fu" character, full of senses of "happiness" and "auspiciousness". The product is supposed to be the "witness" of the happy sharing moments of consumers with its flaming Chinese red, special Chinese zodiac sign patterns, and golden beer body full of wheat and barley fragrance, symbolising a whole new year's prosperity and luckiness.

Tsingtao Augerta 1903

Tsingtao Augerta 1903 was named in honour of Hans Christian Augerta the first master brewer of Tsingtao Brewery. Tsingtao Augerta adopts century-old yeast and traditional brewing technology originated from Europe to make the classic European thick taste. The beer was made from top class two-row malting barley and Czech Saaz hops with rich and balanced taste, emitting unique fragrance of alcohol ester. The packaging was also full of royal European air, adding to Tsingtao Augerta's European taste and superior experience. In 2019, Tsingtao Augerta won the Gold Medal at the World Beer Championships held in the United States.



Life Legend

Tsingtao Centennial Luck
for Year of the Tiger

Tsingtao-Beer 1903



Tsingtao Draft



Tsingtao White Beer

Hongyundangtou
(Good Luck)

Tsingtao Draft × Smiley World

The Draft beer adopts aseptic membrane filtration instead of pasteurisation to keep the nutrition and malt fragrance. For the “double eleven” sales promotion season, Tsingtao Brewery would play new cards in cooperation with brands of other fields such as the SmileyWorld. The Tsingtao Draft × Smiley World is a fashionable single product of outstanding quality, showing the enthusiasm towards life with various smiley faces which means “smiley beer for both the stomach and the heart”.

Centennial Chinese Style

In 2022 Tsingtao Brewery works with Carol Lim & Humberto Leon the master designers to show Chinese traditional culture with modern fashion concepts of the West and promotes the brand-new Chinese Style Tin for Year of the Tiger. The Chinese characters “Tsingtao” are recreated with inspiration by the Chinese hieroglyphics and Chinese seal script, becoming the “double tiger with Chinese style”. The stripes on the tigers are designed into the English word “Tsingtao” in a unique and distinguishable way.

Pilsner

Pilsner is one of the first representatives of Tsingtao Brewery's products brewed under the *Reinheitsgebot* or *German Beer Purity Law* with the simplest raw materials including water, 100% barley malt, yeast and hops only to ensure the original clean flavour and green and healthy quality, and form the unique refreshingly bitter and sweet aftertaste in diversified classic genres. In 2018 it won the big prize in the “the Oscars” of beer industry, the “European Beer Star” competition.

Stout

As the pioneer of China's stout beer, Tsingtao Brewery promoted its first stout beer in 1932. The Tsingtao Stout has a rich body, thick flavour of caramel and strong taste. In 2018 the Tsingtao Stout won the Gold Medal at World Beer Championships. In recent years date-flavour stout and ginger-flavour stout were also developed to enrich the special taste of scorched malt aroma.

Tsingtao Original Beer

The Tsingtao Original Beer is brewed under the principle of “three nos and one cold chain”, which means no filtration to keep a certain amount of yeast to make the beer more nutritious, no sterilisation to keep the activity of yeast and freshness of the beer, no dilution to keep the original malt fragrance to make thicker taste and lasting aftertaste, and using cold chain logistics after canning in low temperature, in order to provide consumers with the most refreshing experience.

The Tsingtao Zero Alcohol Lager won the gold medal of the European Beer Star 2021

The *European Beer Star Competition*, which is always deemed as the “Academy Awards” or “the Oscars” of beer industry, was held in the southern German city of Nuremberg on 9 November 2021. The Tsingtao Zero Alcohol Lager won the gold medal out of 2,395 beer brands from 44 countries, which was the second time to win for Tsingtao Beer after the 2018 edition of the events on which Tsingtao Pilsner won the gold medal.



Tsingtao Augerta 1903



Tsingtao Draft × Smiley World



Centennial Chinese Style



Pilsner



Stout



Tsingtao Original Beer



Tsingtao Zero Alcohol Lager

Constructing the immersive consumption experience

In 2021 the immersive brand experience mode became more mature. Based on TSINGTAO1903 pubs and the Qingdao International Beer Festival as platforms with connexion to music and events, we become the messenger for winter Olympic culture and snow sports as the sponsor of the Olympic Winter Games Beijing 2022. We have interactions with fashionable elements as a century-old Chinese style brand to meet the scenario-based consumer demands integrating brand communication, product sales, consumer experience and interaction with fans.

Greet the Winter Olympics with quality and cheer up together Creating Winter Olympic-themed scenario for immersive experience of snow culture

Tsingtao Brewery promoted the “Snow Tin” for Winter Olympics in 2021, bringing 15 official athletic programmes together creatively onto the product, making theme advertisement clips and theme posters in cooperation with brand representatives, and carrying out nationwide promotion events under the Winter Olympics theme. We asked Yang Yang the Winter Olympics champion to participate in the event to issue the Altay Declaration “Let the World Look to China” in the place where skiing originated, letting the world see China’s confidence on winter sports. On 15 December, the 50-day countdown date for the Olympic Winter Games Beijing 2022, Tsingtao Brewery initiated the themed event “Greet the Winter Olympics with quality and cheer up together” with several Chinese winter sports world champions passing on together the unique atmosphere of Winter Olympics from the coastal city of Qingdao. We promoted series of events including the “Let your cheering be heard on the Winter Olympics” with cheering voices in various Chinese dialects collected and many celebrities and media platforms mobilised. And the sales for Tsingtao Brewery on official sports platform ranked fourth among all Winter Olympic sponsors.



The TSINGTAO1903 pubs all around China

To build a new space for fashionable beer consumption

You are not only drinking beer in the TSINGTAO1903 pub, but also going through a sort of ritual for life. The immersive experience scenarios formed by over 200 TSINGTAO1903 pubs around China become multiple dimensional living experience and social platform to lead the new fashion of life. The new space for fashionable beer consumption is now built with Tsingtao Beer at its core, together with integrated resources and quality and valued business mode.



Popular with over 50 cities in China with sparkling enthusiasm on beer festivals



In 2021 Tsingtao Brewery brought the Winter Olympic elements into beer booths for the first time, in which beer was excellently integrated into innovative displays of Winter Olympic events and turned into a visual feast. Alongside with the launching of the Qingdao International Beer Festival, there were also events including the “2021 Macao-Qingdao Beer Cultural Festival”, “Eighth Wuxi Qingdao Beer Festival”, “Third Longnan Qingdao Beer Festival”, and “First Daqing Qingdao Beer Festival”. From the south to the north, Tsingtao Beer swept over 50 cities across China with enthusiasm. The urban night economy was boosted with cool and refreshing beer in summertime, and people gather happily in music enjoying the rich foam of the beer.

Connect with sports and music to become the messenger of enthusiastic culture

In 2021 Tsingtao Brewery held many football events to connect fans together, sponsored the Qingdao Marathon in which over 25,000 participants running through the open, modern, dynamic, fashionable and charming city. The Tsingtao Draft continued its youth path by expanding its territory with livehouse performance based on music festival to ignite living scenarios with more vitality, passing on the freshness, youth and happiness to consumers through creative music performance and letting more people release and discover themselves in music.



For a better world

Tsingtao Brewery sets “be the pace-setter in green development in beer industry” as its environmental outlook. The company aims at the environmental protection target “with environmental protection, low-carbon management and circular economy measures to promote the sustainable development of the company and realise the harmonious co-existence with the nature”. Now the company’s environmental protection, low-carbon management and circular economy measures have been set as the essential parts for the development strategy and the route to sustainable development.

18 factories promoted the
“brewery wastewater value sharing project”

5 factories listed among the
national-level green factories of 2021

Comprehensive energy consumption per kL dropped by

15%



In the reporting year, Tsingtao Brewery has strictly observed all essential environmental laws and regulations that may greatly impact the company, including the *Environmental Protection Law of the People's Republic of China*, *Law of the People's Republic of China on Prevention and Control of Water Pollution*, *Law of the People's Republic of China on the Prevention and Control of Atmospheric Pollution*, *Law of the People's Republic of China on Prevention and Control of Pollution From Environmental Noise*, and the *Law of the People's Republic of China on Prevention and Control of Environmental Pollution by Solid Waste*.

The company has improved related management system and standards on environmental protection, screened management risks within the whole system and promoted the target-oriented responsibility system and appraisal mechanism. With strict monitoring and control of the environmental protection facilities and the discharging of pollutants in production process, the stable and up-to-standard discharge of all pollutants was ensured and the performance of environmental protection was constantly improved.

On 15 January 2022 the Ministry of Industry and Information Technology announced the *2021 Green Manufacturing List*, on which there were Tsingtao Brewery's five factories including the No.3 company, the Rizhao company, the Shanghai Songjiang manufacturing company, the Suizhou company and the Shenzhen Tsingtao Asahi company.

Tsingtao Brewery strictly followed the rules on site selection settled by the *General Hygienic Regulation for Food Production of the National Food Safety Standard (GB14881)*. With a sense of responsibility to the environment and the community, in response to the safety and environment policies of the local government, we have fully investigated the water source, ecological surroundings and community environment and made the investigation result an essential reference for the new brewery's location. Tsingtao Brewery also took the most positive measures to protect the environment during infrastructure building with the newly built factory.



Water resource and wastewater management

Water resource management

Water is the source of life and water conservation is the essential task in the work of energy conservation and consumption reduction. Tsingtao Brewery strictly follows the requirements of laws and regulations including the *Water Law of the People's Republic of China* and sticks to the water conservation concept of source reduction, process control, deep treatment and cascade utilisation, and reduces water consumption with various effective measures. The water system of the factory was redesigned to recycle the overflow, condensed water, cooling water and middle water to raise the water using efficiency. The company also carried out water consumption benchmark management and developed a set of water conservation measures, such as water saving measure with bottle washers, reverse osmosis optimisation and pump cooling water interlocking, to effectively reduce water consumption through the whole production process.

In 2022 the company will use new techniques to optimise water treatment processes, reduce wastewater discharge, systematically review the production process and increase the reuse and cascade utilisation, to reach the goal of reducing water consumption per unit product by 10% in comparison with the figure of 2019.



Heze company honoured the "Shandong Provincial Example for Water Conservation"

Water consumption					
	Unit	2019	2020	2021	Change in %
Water consumption	1,000 m ³	30,266	28,309	27,185	-4%
Water consumption per unit product of beer	m ³ /kL	3.74	3.69	3.44	-7%

Wastewater management

Wastewater discharge in a stable and up-to-standard manner

To meet the series of requirements of the Ministry of Ecology and Environment's *Water Contamination Source Online Monitoring System*, Tsingtao Brewery asked suppliers to design an overall solution for wastewater online equipment and ensured the in-compliance operation of facilities for environmental protection. Changes on local laws and regulations were timely identified, and special wastewater treatment guidance was set up to keep wastewater discharge in a stable and controllable manner with the whole treatment system running smoothly. During commissioning period of the newly built factory, the commissioning of wastewater treatment system was managed with special attention to help the new facility run as planned.



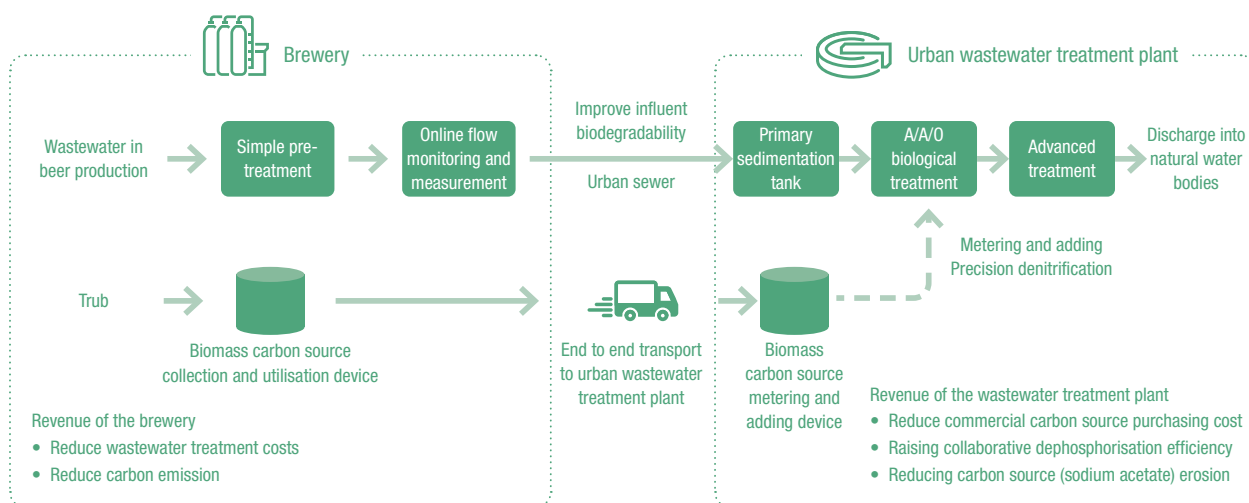
Jieyang company's wastewater treatment wetland

Discharge of wastewater					
	Amount (Tonne)	2019	2020	2021	Change in %
COD	Total	1,025	937	900	-4%
	Direct discharge	64	64	55	-14%
	Indirect discharge	961	873	845	-3%
	Total	107	91	88.6	-3%
Ammonia nitrogen	Direct discharge	2	2	1.7	-15%
	Indirect discharge	105	89	86.9	-2%

“Brewing wastewater value sharing programme” of Tsingtao Brewery

Tsingtao Brewery empowers green transformation with technological innovation, actively explore and practise new models and paths of green development and recycling development for traditional manufacturing industry, and promotes the transformation in quality, efficiency and driving force. In 2021, Tsingtao Brewery continued to reduce energy and resource consumption and carbon emission per unit product. And with the project “wastewater discharge within prescribed limits + trub comprehensive utilisation”, the brewery wastewater was added to the carbon source of urban treatment plants as resource instead of waste. The three factories under Tsingtao Brewery saved nearly three million yuan for wastewater treatment, three downstream wastewater treatment plant saved about six million yuan, reducing carbon emission by 5,000 tonnes. This mode has promoted the new system of resource recycle, which was listed into the green low-carbon typical cases by Shandong Provincial Department of Ecology and Environment.

Currently, Tsingtao Brewery's stable and effective operation of the project “wastewater discharge within prescribed limits + trub comprehensive utilisation” has provided reference model for alcoholic industry. Since May 2021, the first batch of factories realised wastewater discharge within prescribed limits, Tsingtao Brewery has been tracking and optimising, and has formed the *Standard Workflow and Promotional Model for Wastewater Discharge within Prescribed Limits* which was promoted among all factories in China. Now there are 53 factories to reach the policy requirements, and 18 factories completed the “brewing wastewater value sharing programme”, realised the sharing of corporate and social values, benefits and responsibilities.



Signing ceremony of the cooperation agreement for brewery wastewater discharge within indirect prescribed limits in Tsingtao Brewery



Energy management

Systematic thinking, process control, increasing the energy utility rate and building a green energy conserving and environmentally friendly enterprise – these are the persistent pursuit of Tsingtao Brewery. The company always abides by the *Energy Conservation Law of the People's Republic of China* and related laws and regulations. Internal rules including the *Energy Management System*, the *Production Statistics Management System* and related operation standards were exercised to continue improve technical innovation, the reform of energy conservation projects and the application of new energy conservation technologies. In 2021 the comprehensive energy consumption per kL reduced by 15% year-on-year.

The company has sorted out 31 key measures to cover the whole production process from the viewpoints including detailed standard, optimised operation and improved equipment through tailor-made improvement measures and key control points for energy conservation in each procedure with reference to the technique, process and equipment property in brewing industry. On this basis, each factory has identified and implemented measures with an aggregate of 3210 in a tailor-made manner, promoting the efficient utilisation and recycle of the energy.

Energy consumption					
Energy consumption	Unit	2019	2020	2021	Change in %
Coal consumption	10,000 tonnes of standard coal	2.95	2.75	1.59	-42%
Electric power consumption	10 million kWh	52.08	49.41	48.37	-2%
Natural gas consumption	10 million m ³	9.84	8.92	9.22	3%
Thermal energy consumption	Billion kJ	3,857	3,082	2,311	-25%
Comprehensive energy consumption per unit product of beer	Standard coal per kL	0.042	0.039	0.033	-15%

Application of new energy conservation technology and equipment optimisation

Waste heat recovery was introduced into 26 streamlines to lower down the steam consumption. The deoxygenated water preparation equipment pieces in seven factories were optimised to reduce heat consumption. As many as 27 blowing units before packing line marking machine in 13 factories were updated to reduce electric consumption. Power units in 14 factories were renewed to improve operation efficiency. Saccharification heat centres in four factories were completed to raise waste heat recovery rate. With the energy conservation and cost reduction programmes, 12.42 million yuan in cost was saved, energy consumption was reduced and CO₂ emission was lowered.

In 2022 the company will continue exploring the space for energy conservation, optimising production process control, accelerating the application of new technologies, techniques and equipment, to realise a 25% reduction in comprehensive energy consumption per unit product in comparison with the figure of 2019.



Cases

Tsingtao Brewery (No. 2) Co., Ltd. carried out the saccharification heat centre programme according to the heat balance during saccharification, to comprehensively recover secondary waste heat from vapour, cooling wort and condensed water for packaging workshops, reducing the consumption of vapour by 15 kg/kL. In reference to the heat balance during dilute water preparation process, heat consumption was reduced by improving equipment capacity, realising a vapour consumption reduction by 6 kg/kL and a cooling electric power consumption reduction by 1.5 kWh/kL, which were prominent results. In 2021, the comprehensive energy consumption per kL reduced by 16% year-on-year with Tsingtao Brewery (No. 2) Co., Ltd.

Tackling climate change

Challenges by climate change and how to respond

The 14th Five-Year Plan (2021-2025) period is an essential strategic window for our nation to promote eco-civilisation, to achieve the goals of peaking carbon emissions and subsequent carbon neutrality, to transform economic growth model, and to promote green and low-carbon development. It is also an essential period for the company to accelerate high-quality green development and solidly promote carbon neutrality. Climate change is influencing the world profoundly in the fields including environment, politics, economy and social security, as well as the healthy, stable and sustainable development for the company in the future. With the rise in global temperature and more frequent extreme weather conditions, the raw material supply, logistics, production, sales and equipment investment will be impacted profoundly, so that the company has prepared countermeasures to diminish the negative influence to its business operation.

Greenhouse gas management

The company has been aware of the long-term essential influences and risks to business, and has been planning countermeasures to diminish the negative influence to its business operation. In September 2020 China announced that it would scale up its NDCs by adopting more vigorous policies and measures, strive to peak CO₂ emissions before 2030, and achieve carbon neutrality before 2060. Tsingtao Brewery actively responded to the national goals to peak CO₂ emissions before 2030, and achieve carbon neutrality before 2060, and carried out the green and low-carbon development plan for the 14th Five-Year Plan (2021-2025) period, incorporated low-carbon development into the corporate development strategy, and effectively managed the greenhouse gases emissions. In 2022 the carbon emission per unit product dropped by 18% in comparison with the figure of 2019.

Through corporate greenhouse gases identification and analysis, we found that most of the carbon emissions came from energy consumption. In the future we'll take measures including reducing energy consumption, changing energy structure and adopting clean energy to cut down carbon emissions.



Zaozhuang company to set up photovoltaic plates

Eagerly initiating the use of renewable energy source electricity:

Our goals: all 16 factories in Shandong region purchase green electricity and five factories use dispersed photovoltaic facilities in 2022

Our achievement: turning 17% of all electricity to renewable energy resource electricity in 2021 for the company

In 2021 we piloted a 2.2 MW dispersed photovoltaic facility in our newly built Tsingtao Brewery (Zaozhuang) Co., Ltd., which will annually produce 2.2 million kWh of electricity with nearly 2,000 t CO₂-equivalent carbon emissions reduced.

In 2022 the company will continue the use of renewable energy source electricity, with 16 factories in Shandong region purchasing renewable energy source electricity, and encouraging factories in other parts to purchase renewable energy source electricity if possible so as to help realise the national goals of peaking CO₂ emissions before 2030, and achieving carbon neutrality before 2060. Meanwhile, the company will promote the renewable energy source electricity programme building and adopt dispersed photovoltaic facilities in five factories.

Reducing carbon emissions in production: In order to reduce carbon emission in production process, we have been collecting and purifying the CO₂ from fermentation for production needs, which makes a perfect recycle and reduces greenhouse gases emission. The amount of CO₂ recovered from 2019 to 2021 equals the effect of planting 3.88 million firs each with no less than 30 years of age and absorbing 111 kg CO₂ annually.

Restructuring energy source to reduce carbon emissions: in 2021, two factories phased out coal-fired boilers and adopted cleaner natural gas boilers, reducing greenhouse gases emissions per year by 20,000 tonnes in total.

Greenhouse gas emission management					
Total amount of greenhouse gases	Unit	2019	2020	2021	Change in %
Total emission	Tonne of CO ₂ equivalent	927,797	851,407	778,646	-8.55%
Range 1	Tonne of CO ₂ equivalent	310,871	264,024	235,455	-10.82%
Range 2	Tonne of CO ₂ equivalent	616,926	587,383	543,191	-7.52%
Total emission density	kg of CO ₂ equivalent/kL production	120.15	115.57	102.77	-11.08%
Total emission density (range 1)	kg of CO ₂ equivalent/kL production	40.26	35.84	31.07	-13.28%
Total emission density (range 2)	kg of CO ₂ equivalent/kL production	79.89	79.73	71.70	-10.07%

Influences and countermeasures on raw material purchasing under climate change

Extreme weather and natural disasters occurred more frequently in recent years, which posed big impacts on the planting and harvesting of agricultural products. Meanwhile the long-term global warming trend is bringing about reduced crops, risking the supply and quality of crops, due to which major materials such as barley is short of supply with significant price rise.

To face the challenges brought about by climate change, Tsingtao Brewery will constantly improve the global multiple production base strategy to ensure the supply of raw materials.

Waste gas management

Tsingtao Brewery strictly follows laws and regulations on waste gas including the *Law of the People's Republic of China on the Prevention and Control of Atmospheric Pollution* and ensures the emission meeting national and local standards with online flue monitoring equipment installed and entrusting qualified third-party for the comparison and monitoring work every month.

The company is eager in promoting clean energy with coal to gas conversion. By the end of 2021, all factories use outsourced vapour and natural gas, 21 factories adopted biogas boilers, recovered and reused the biogas generated from anaerobic system of the wastewater treatment system, and reduced greenhouse gases emissions.

Waste gas discharge				
Discharge	2019	2020	2021	Change in %
SO ₂	37	18	9.6	-47%
NO _x	199	128	109	-15%



New Yinmai company

Material consumption for waste and packaging

Tsingtao Brewery strictly abides by the 3R principle for circular economy, *Reduce, Reuse and Recycle*, and further promotes solid wastes reduction in strict compliance with the *Law of the People's Republic of China on Prevention and Control of Environmental Pollution by Solid Waste*. The amount of dangerous wastes generated was reduced by 16% in comparison with the figure of 2020 through actively observing the national list for dangerous solid wastes. And all dangerous solid wastes were treated by qualified organisations according to laws and regulations. With measures including lowering the water content of sewage sludge and wastewater discharge within prescribed limits, the amount of harmless wastes was reduced by 3.4% in comparison with the figure of 2020. "There are no wastes, only misplaced resources in Tsingtao Brewery," normal industrial solid wastes including distiller's dried grains, dry yeast and cullet are 100% comprehensively utilised.

Goals in 2022: normal solid waste such as sludge and waste diatomite generation per unit product reduced to 5% lower than the figure in 2019, dangerous waste generation per unit product reduced by 17%, and 100% utilisation of solid waste resources including distiller's dried grains, dry yeast.

In comparison with the figure of 2020 through actively observing the national list for dangerous solid wastes, the amount of dangerous wastes generated was reduced by

16%

In comparison with the figure of 2020, with measures including sewage sludge water content reduction and wastewater discharge within prescribed limits, the amount of harmless wastes was reduced by

3.4%

Solid waste discharge

Item	2019	2020	2021	Change in %
DDG (kt)	134.1	128.1	131.7	2.8%
Dry yeast (kt)	11.6	11.0	11.4	3.6%
Hazardous wastes (kt)	0.145	0.123	0.106	-13.8%

Consumption of packaging materials

Item	Unit	2019	2020	2021	Change in %
New bottles	kt	1,281	1,140	1,212	6%
Recycled bottles	kt	3,372	3,109	3,183	2%
Pop-top cans	kt	65	70	75	7%
Cartons	kt	227	215	235	9%
Plastic film	kt	12.8	12.6	12.7	1%

Initiating the action of green protection among all staffs

To practise green concept and build the most eco-friendly Tsingtao Brewery, the company carried out the low-carbon event plan for the World Environment Day of 2021 themed *Human and Nature in Harmony Together with My Contribution of Green Elements*. The company carried out low-carbon and environmental protection concept promotion to students based on green education bases, organised tree planting events, no-driving day events, comprehensive resource utilisation events etc. The company made special low-carbon printed materials to promote the concepts, contents and measures of peaking CO₂ emissions before 2030 and achieving carbon neutrality before 2060, letting low-carbon development concept deeply rooted in people's minds. Tsingtao Brewery will keep creating green values in every corner of the world as a creator of good life and constructor of beautiful China.



Jiujiang company volunteers participate in *Saving the Yangtze River* event



New Yinmai company promoting green and low-carbon life concept in communities



Yangzhou company interacts with community residents on World Environment Day to promote the company's concept of environmental protection



Xiamen company organises volunteers to protect water source



Caring for the community





Poverty reduction and donation work

Assistance in collaboration

Marching together hand in hand

Cultural collaboration

In 2021, Tsingtao Brewery continued to use Qingdao International Beer Festival the world famous festive brand as carriers, and held local version festivals in Longnan and Dingxi, promoting the local cultural and tourism resources for integrated culture-tourism development, expanding the visibilities of the two places, and attracting investments to help with the cultural and tourism programmes and the quality development of the local economy and society.



Longnan Tsingtao Beer Carnival

Donation and poverty alleviation

In 2021 the Xi'an company donated 200,000 yuan to its partner village according to its actual needs, helping them with rural work to complete public lighting facilities, build cultural square and bulletin boards, beautify the village paths, and pay visits to families and children that were just alleviated out of poverty.

Helping with employment

In late November the Yulin company took action in response to the local government's call by helping the Fujiapan Village of Yuhemao Town with employment. As many as over 40 positions of four different categories of jobs were provided to villagers in the job fair event held on-site, and several villagers settled their intention to work in certain job positions. With gratitude to this action, the leaders of the village came to the company to send the honorary flag "invigorating villages, assisting villagers" to thank the company for the work.



Village assisted by the company sends honorary flag to Yulin company

Helping Qingdao to gain the city's new business card "China's Capital of Beer"

In 2021, the China National Light Industry Council and the China Alcoholic Drinks Industry Association jointly carried out a panel examination in Qingdao and decided to grant the city "Qingdao – China's Capital of Beer".

As the inheritor and carrier of beer culture, Tsingtao Brewery has been injecting open, modern, dynamic and fashionable elements into this city's beer culture in the past 118 years, enriching and expanding the connotation of beer culture. The Qingdao International Beer Festival initiated in 1991 has turned out 31 editions, now becoming the largest beer event in Asia. The Tsingtao Beer Museum has become the designated experience site for important events including the 2018 SCO Summit, 2018 WTCF Qingdao Fragrant Hills Tourism Summit and the Chinese Naval Festival etc. Projects such as the TSINGTAO1903 and Craft Beer Garden have opened new channels and new business models with innovative thought. The beer industry with Tsingtao Brewery as the leader has played an essential role to promote the city of Qingdao to be an open, modern, dynamic and fashionable international metropolis.

Charity donations

In August 2021, Tsingtao Brewery donated two million yuan in aid of the "Shandong-Tibet Happy Homeland Construction Project", passing on the great care to people in Tibet Autonomous Region.



Aiding the "Shandong-Tibet Happy Homeland Construction Project"

Tsingtao Brewery has donated through Qingdao Charity Federation 300,000 yuan to the Qingdao Model Worker Charity Fund for helping, saving and caring for the Qingdao local model workers with honours above municipal level and their families. The company constantly improves the model worker group's experience of gains, happiness and safety by helping them to solve actual problems and improve living conditions with idol power, working spirit and craftsmanship.

Since 2004, Tsingtao Brewery has been paying continuous attention to programmes for the disabled with the sense of social responsibility of assisting the weak and helping the underprivileged, and has been donating to the Qingdao Disabled Person Welfare Foundation for 18 consecutive years. In November 2021, Tsingtao Brewery donated 100,000 yuan to the Qingdao Disabled Person Welfare Foundation. And till now Tsingtao Brewery has donated an aggregate of 2.16 million yuan to programmes for the disabled.

Tsingtao Brewery is keen on education and has donated 6.38 million yuan to the Tsingtao Brewery Scholarship the programme specially designed for students. In 2021 the company donated to the Tsingtao Brewery Scholarship with an aggregate of 300,000 yuan to 80 students. At the same time, every unit has been keen in carrying out Autumn assistance programmes for students each year, providing students with solid financial help.



Tsingtao Brewery donates 300,000 yuan to the Qingdao Model Worker Charity Fund

Responsible drinking

Tsingtao Brewery always advocates the social responsibility of responsible drinking, promoting "responsible drinking for happy life", calling for consumers to enjoy the happiness brought by beer and based on health, and initiating the green, healthy and quality lifestyle.



Promoting responsible drinking for public good

Our advice

People who should not drink: Underage groups should not drink, and no-alcohol education should be provided. Pregnant women should not drink. And breast-feeding women should not drink. Drivers should not drive after drinking, and passengers should refuse to ride on a vehicle driven by the drunk. Patients under medical treatment or taking medicines should not drink. Avoid excessive drinking or drinking without food intake.

Our activities

Healthy life with beer: Products are labelled with a sign warning "Excessive drinking can seriously damage your health." Promoting public service ads "Do not drink and drive." Developing low alcohol and low heat products. We hand out leaflets to promote responsible drinking during sales promotions. Age verification reminder on our official website.

Caring for the community – passing on the warmth



Various events for public good conducted by the company in 2021

As responsible corporate citizen, Tsingtao Brewery put first the health and safety of all people and employees during the key moment when the whole nation was battling COVID-19. Based on good epidemic containment work of itself, the company mobilised all resources to donate to those who were in need. On 11 March 2022, Tsingtao Brewery donated two million yuan in cash and a batch of Tsingtao Prince Soda Water worth 1.5 million yuan through Qingdao Red Cross Society to support the battle against COVID-19 in Laixi front, and sent two echelons of employees to Laixi for volunteer service.





1. Southeast regional marketing department and Xiamen company donated 2,000 boxes of Nestlé Pure Life Purified Water which worth 60,000 yuan to Tong'an District Red Cross Society
2. Harbin company donated anti-epidemic supplies
3. Baoji company actively supported the local authorities with epidemic containment work, and won the honour of "Shaanxi Provincial Advanced Team for Battling COVID-19"
4. Xiamen company's employees eagerly participated in the volunteer service events for the local community to contribute their power for epidemic containment
5. Kunshan company has been organising voluntary blood donation "Public Welfare in Mind to Pass on Love" for 15 consecutive years, forming the great chapter of compassion of Tsingtao Brewery people with solid deeds
6. Suizhou company donated supplies for combatting the flood in the city of Suizhou
7. Volunteers from Henan Province voluntarily delivered supplies during the flood disaster in Henan

Value chain in harmony

Top 100 Best Employers of China

Top 100 Model Employers of China

100% coverage of training for employees



Beer



Employee health and safety management

Tsingtao Brewery strictly abides by safety laws and regulations including the *Production Safety Law of the People's Republic of China*, *Labour Law of the People's Republic of China*, *Fire Control Law of the People's Republic of China*, *Law of the People's Republic of China on the Prevention and Control of Occupational Diseases*, *Provisions on the Administration of Occupational Health at Workplaces*, and *Occupational Exposure Limits for Hazardous Agents in the Workplace*, constantly improves the occupational health management system.

The company sticks to people-first and safe development, promotes dual prevention mechanism of "hierarchical control of risks and screening and treating of potential hazards", builds and completes the system of responsibility in safe production and safe production rules, strengthens and implements corporate primary responsibility for safety, promotes safety culture building in an all-round way, raises the employees' awareness of safety until we achieve the ultimate goal of becoming "a place where employees work in safety, health and happiness".



Guideline for work safety

Risk identification

All-round and zero-failure

Security examination

Total coverage without blind angles

Potential hazard management

Complete removal and zero tolerance



Two major lines for work and four key areas

- Careful and precise planning, implementing primary responsibility for safety at all levels
- Multiple measures in key safety management fields and strict control over actions
- Mobilising all staff for BBS and conducting JSA on high-risk operations

In 2021 the company won 36 government awards, including six provincial awards and 16 municipal awards, with all factories across the nation becoming the local example of work safety.

No serious injury or above production safety accidents happened from 2019 to 2021. The working day loss reduced from 666 in 2019 to 274 in 2020, and finally to 162 in 2021.



36

government awards were won by the company in 2021.

Loss of working days in 2021 reduced by

41%

Complete structure with whole coverage to make clear the responsibility be held

The company timely shifts its safety management structure and network and carries out safety management responsibilities. There were five corporate safety committee meetings last year, and decision-making would underline efficiency more than before. Safety committees were built in business units for complete coverage of each point.

The company sticks to the targets of effectiveness with 100% breakdown of safety goal responsibilities. A total of 4,874 target responsibility documents were signed. Open promising was adopted that all production units' general managers signed and publicised the *Commitment on Work Safety Responsibilities*, which employees were entitled to monitor.

Risk control and potential hazard removal with safety examination as supervision measures

Conducting risk control and potential hazard removal actions based on “three complete and three zeros” safety guideline

- Seven major risks of beer industry were identified with special screening and treatment with nearly 500 risk points of factory level diminished.
- Four major management fields of the year were identified with focus on major parts, and nearly 30 million yuan was invested in safety projects for the whole year to root up potential safety hazards.



500

risk points of factory level diminished

High-frequency review to monitor the implementation

- Executing examination and verification with a single streamline and a uniform standard
- Carrying out comprehensive examination over affiliating units
- All units to upgrade security levels prior to major events

30

million yuan invested in safety projects for the whole year

Undertaking review for JSA and high-risk operation

Promoting the JSA evaluation events and conducting over 30,000 high-risk operations using JSA without accidents.

Strengthening safety education and training with multiple forms

- Forming the three levels of safety education system, conducting various forms of safety training with the opportunity of organised trainings on laws and regulations, safety management procedures and system building
- Online and offline safety training for all employees with 45 hours for each employee, far exceeding the national annual training requirements
- Online: innovating training forms with video conferences, regional conferences, online management workshops and micro classrooms to carry four special training programmes covering explosive dust, fire control and road safety. The company compiled 17 pieces of courseware for special micro classrooms with more than 7,000 views by frontline employees.
- Offline: adopting onsite communication among a small range of people in a single factory with more targeted forms

Continue to carry all kinds of promotion activities on safety culture

The company carried out all kinds of activities on safety culture in accordance to its annual action plans to build an atmosphere of work safety under the theme “controlling risks and removing potential hazards for my own safety” during the national Month of Work Safety.

All 1,038 workgroups and teams participated the standardisation activities for safety management and the “examination – protection – promotion” work safety activities. The company optimised and publicised work safety manuals and Q&A pools for 12 positions, with 34,000 people participating online and 58 workgroups joining in the appraisal of the HQ’s “safety management pacesetter workgroup”. 11,502 employees from relative posts participated in the examination for work safety knowledge and all passed, and 12 units won the company-level honour of “work safety pacesetter workgroup”.



Pengcheng company undertakes a safety and environment knowledge competition

Strengthening emergency management

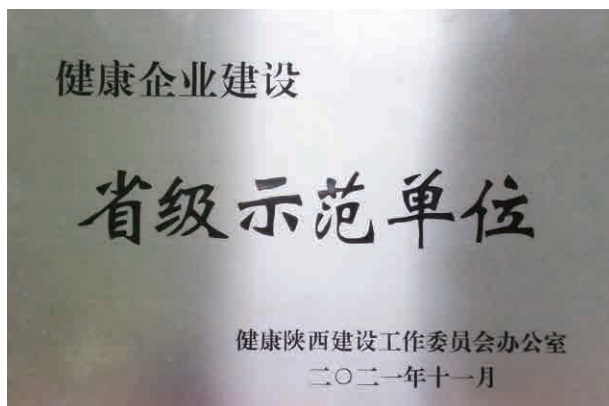
Three-stage emergency disposal system including comprehensive plan, special plan and onsite disposal plan was formed in Tsingtao Brewery. In 2021 the company organised 9,508 rounds of all levels of rehearsals, up by 2.6%, in which 1,021 emergency rehearsals of factory level were carried out, and 6,606 times of workgroup level which took up 70% of all rehearsals, up by 7%. With increased rehearsals, the process appraisal was strengthened. And more than 80 points for improvement were found during standard assessment to rehearsal process.



First-aid and AED training course in Shenzhen company

Comprehensive screening and compliance management to protect the vocational health of employees

- Vocational health environment and hazardous factors on vocational health screening actions were carried out.
- Improving workplace environment and reduce workload by adopting more machines.
- Vocational health examinations were organised through the whole process from the beginning to the end of a post with a total staff of nearly 10,000.
- The company improved the labour protective supplies management and invested 25 million yuan to protect the vocational health of employees.



Baoji company won the honour of Shaanxi Province's first batch of "Provincial-level Demonstration Unit for Healthy Company".



Pengcheng company won the honorary title of "Healthy Company of Jiangsu Province", which was the only beer company on the list.

Protecting employee rights

Equal and in-compliance employment

Tsingtao Brewery sticks to the bottom line of compliance to laws and regulations including the *Labour Law of the People's Republic of China*, *Labour Contract Law of the People's Republic of China*, *Law of the People's Republic of China on Promotion of Employment*, *Law of the People's Republic of China on the Protection of Minors*, *Social Insurance Law of the People's Republic of China* and the *Regulation on Work-Related Injury Insurance*.

Tsingtao Brewery always believes the employment concept of "providing stage for endeavours and giving applause to contributors" and adopts standard verification process and benchmarking during interviews, creating equal employment opportunity for each candidate while making sure each recruit up to the standard of employment and the requirements of the position. In terms of recruitment, promotion and salary, the company insists equal and in-compliance employment regardless of ethnicity, religious belief, gender, age or marital status of the employee. The company provides equal and healthy development platforms to encourage them to forge ahead with determination, strive for excellence, be firm with beliefs and actions, and make every effort to make things happen.

The company has clarified the limit to the age of the employees for recruitment according to the law. No child labour or enforced labour is allowed in any business or working venue and no risks of child labour or enforced labour were found during 2021 with any business.

In 2021 Tsingtao Brewery rose to the top during the assessment organised by several professional employer assessment organisations with outstanding image and practice, and won several annual awards.

- Top 100 Best Employers of China
- Top 100 Model Employers of China
- Extraordinary Employer of China
- Most Influential Employer of China
- Outstanding Practice Award for Human Resources Management
- Top 50 Employers for Chinese People

Complete system for social welfare and security

Tsingtao Brewery sticks to the compliance to laws and regulations, signs employment contracts and pays for employees' social insurances as well as housing provident funds. In 2021 the company 100% signed employment contracts with employees and paid for their social insurances.

Tsingtao Brewery provides employees complete system for social welfare and security, and strictly observes national, provincial and municipal regulations including the *Regulation on Paid Annual Leave for Employees*, *Implementation Measures for Paid Annual Leave for Employees of Enterprises* and the *Opinions of the State Council on Reforming the Mechanism for Determining Wages in State-owned Enterprises*. Employees can enjoy paid-leaves, maternity and sick leaves, regular physical examinations and health trainings. Meanwhile the total budget management of salary system was carried out to rationally decide the growing speed of the total payroll, with differentiated distribution mechanism according to examination and assessment of performances. In 2021 the happiness index for all employees reached 93.91% in a employee happiness index survey.

Solving employees' problems

Tsingtao Brewery strictly follows the requirements of laws and regulations, respects the rights and wills of employees. The communication with employees is strengthened with various carriers including employee representative meetings, transparency in corporate affairs, community for employees, WeChat posts, internal magazines and systematic protection.

In May 2021 the Sixth Employee Representative Meeting and the First Trade Union Representative Meeting of Tsingtao Brewery were convened through online + offline forms in main venues and sub-venues, with workers and financial employees of the trade unions present.

Employee representatives carried group discussions on special reports. Delegates actively provide their ideas and proposed a series of solutions and suggestions, and voted to pass all reports.



A meeting of employee representatives

Empowering employees to help them grow

Tsingtao Brewery always pays attention to providing multiple opportunities to employees for their growth and development, and makes it the strategic and fundamental project which concerns the company's sustainable development in the future.

Three dimensional and dual line empowering of all employees

The company always attaches great importance to internal education and training, aims at building quality education and training platforms, and builds training systems covering different levels and streamlines from leadership promotion, professionalism improvement and capability expansion. The coverage of employee training reached 100%.

Average training cost (yuan)	Average hour of study	Hour of study for managing staff	Hour of study for streamline working staff	Hour of study for sales staff	Hour of study for male staff	Hour of study for female staff
643	39.2	40.1	38.2	39.3	37.1	41.3

Coupling multiple chain digital study platform

With the popularisation of Internet and 5G, there has been great changes in employees' learning. The company reconstructed the learning platform and introduced in central dashboard to provide the one-key-access experience of the most quality learning resources and fresh cases.



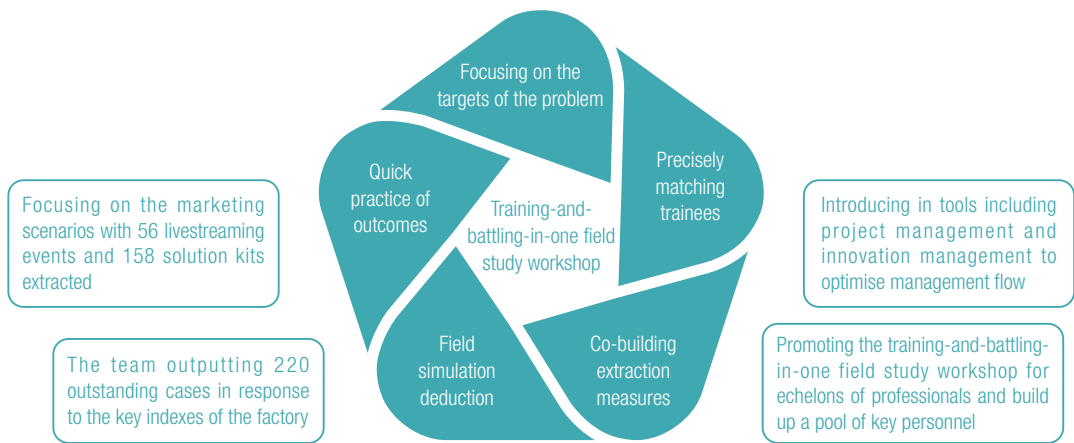
2,545
excellent cases

3,500
quality courses

330,000
person times of study

“Field study workshop” training mode

Facing the regular epidemic prevention and control in 2021, the company quickened its steps in digital training mode. The “training-and-battling-in-one field study workshop” programme was promoted to output solutions and cases in response to the key points, pain spots and difficulties.



Comprehensive team of craftsmanship

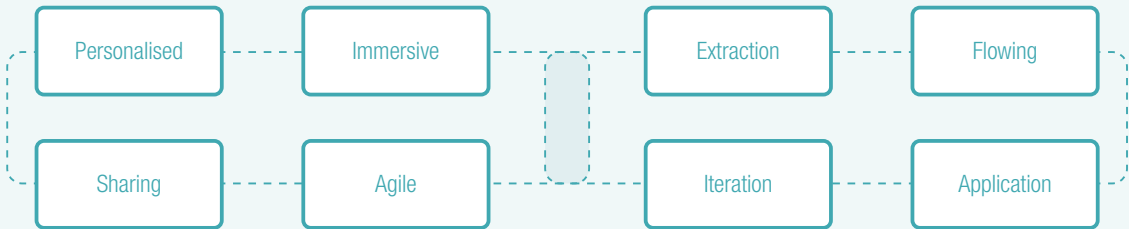
Manufacturing with craftsmanship is the passcode for the century-old Tsingtao Brewery. The company constantly trains comprehensive skilled professionals with OJT, targeted training, skill competition and internal skill evaluation, in order to build a professional team of craftsmanship in which each one has multiple skills, shoulders responsibilities and owns smart techniques. With targeted identification and empowerment, the comprehensive skill professionals reached as many as 70% of all staff in 2021.



“Sharp stylet micro classroom”

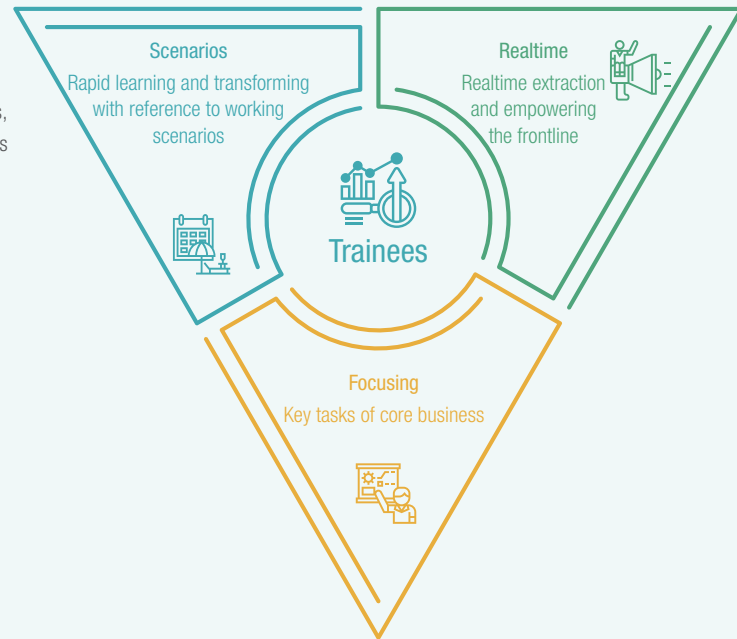
“Sharp stylet micro classroom” is the “pocket master” learning tool on digital mobile platforms with “small, quick and smart” learning mechanism, tools including case extraction and post-training planning, and extracted organisational experience for the business scenarios and pain points. Since it started livestreaming, there have been 56 editions and 23,500 person times with 158 packaged solutions extracted.

- One-size-fits-all solution for the target
Quick extraction of packaged solutions, timely empowering sales force, improving the capabilities of key personnel and promoting performance.
- “Dual circulation” of contents
Unceasingly meet young employees’ requirements for personalised and immersive learning, promoting and applying the success experience in a more rapid and extensive manner with constant verification, iteration and innovation.

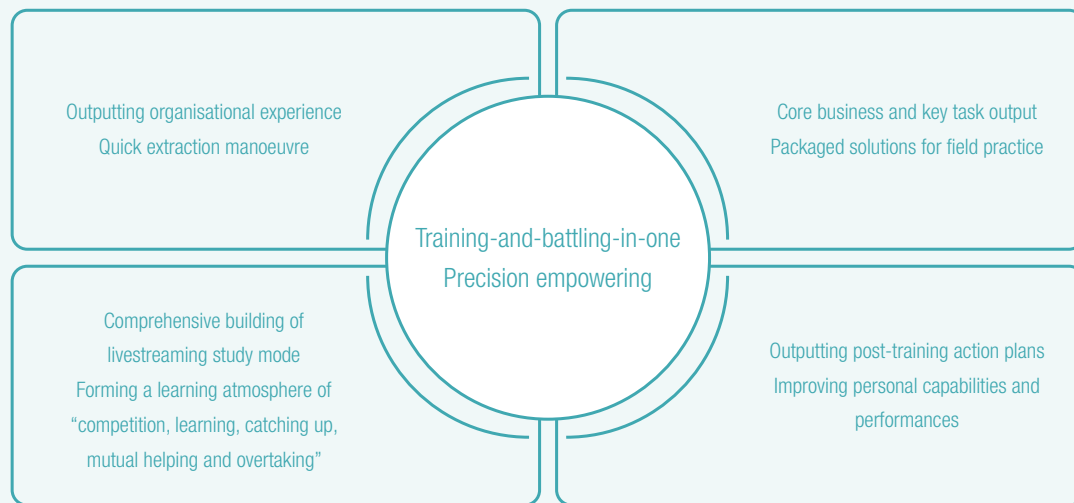


● Operating the “golden triangle”

Closely centred on trainees with focus on core business, close to business scenarios with timely extraction of contents and rapid application



● Outcome “four flags”



Cases

In 2021 I participated in the Class A&B professional conservation project of the manufacturing system organised by the company and now I've become a deputy general manager of a manufacture. Tsingtao Brewery built a platform for my growth. I was promoted by the professional training mode based on competency and involving two major lines. And I have studied in the “high level class for mechanical engineering postgraduate courses” specially designed to bring out equipment manager teams and the “golden qualification class” designed for training intermediate level managing staff. And I got truly and comprehensively improved in professional skills and leadership.

Liu Bingchen, employee of Tsingtao Brewery

Providing stage for endeavours and giving applause to contributors

Wolf Warriors honours

The company put strategic goals as the mainstream in 2021, built “wolf” culture in the sales team, and raised the sense of honour among frontline business teams.



Long-term stimulations

The company successfully promoted the first stock incentive plan and issued restrictive stocks to 661 holders, which effectively stimulated the team's enthusiasm and entrepreneurship. The company implemented targeted special performance incentive mechanism to match the company's core strategy to help achieve the strategic product goal. And the company also implemented the “golden ear of wheat” special sharing plan to stimulate all employees continue to expand business and innovate with entrepreneurship spirits.

Enriching the life of employees

On 23 June, Tsingtao Brewery held the chorus show themed “Always follow the Party to endeavour into the new journey” to celebrate the 100th anniversary of the founding of the CPC. Many songs that were familiar to us were sung by the participants and the great resolution to make things happen was presented by all Party members and staff of Tsingtao Brewery.

In 2021, various sports activities including basketball and badminton were organised by the Shanxi Province regional office, Jiangsu sales office, Shijiazhuang company and Jinan company. And Lianyungang company, Rongcheng company, Zhuhai company and Baoji company organised fun sports meetings, development activities, dumpling making activities and flower arranging activities to enrich the cultural life of employees.



Caring for employees with multiple measures

To better aid the workers stressed by major diseases with the "Employee Care Fund", the company reviewed and improved the *Measures for Tsingtao Brewery Employee Care Fund* and the *Rules for the Implementation of the Tsingtao Brewery Employee Care Fund*, lowered the access threshold and expanded the applicable group. The fund covered 28 diseases instead of 25 in the past, and its proportion of aiding rose to 60% at most instead of the previous 50%. The company actively organised the HQ and affiliated units to donate for the care fund and collected 959,000 yuan from 70 units for the year. In 2021 the care fund helped 14 employees in need, who were from 12 units, with a total spending of over 460,000 yuan.

The working committee of Tsingtao Brewery reviewed and issued the *Measures for Helping Needy Employees*, helping needy workers in a standard and powerful manner, distributing financial aid to 118 needy workers, provided goods to 197 person times and paid visits to 95 workers stationed abroad.

Facing the pandemic, the company unceasingly purchased and distributed supplies, sterilise and clean the production and working environment on a regular basis to ensure safety. The company cared for the daily health conditions of employees, collected and tracked the prevention circumstances of each employee, and timely master the newest policy changes across the country to notify employees to mind their own health and safety.



959,000 yuan

donated by 70 units

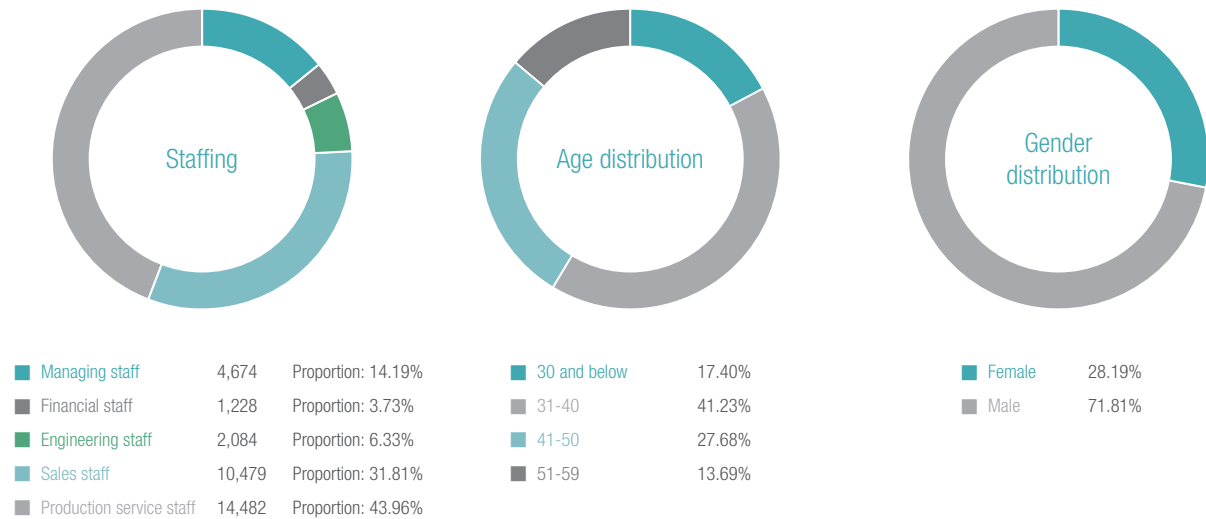
460,000 yuan

spent in 2021 as care fund to help 14 employees in need, who were from 12 units



Awarding of outstanding employees

At the end of 2021 there were **32,947** employees in total, which can be calculated as follows:



Voluntary turnover rate	7.53%
Voluntary turnover rate of male staff	6.13%
Voluntary turnover rate of female staff	1.40%
Voluntary turnover rate of staff aged 30 and below	3.07%
Voluntary turnover rate of staff aged 30-39	3.81%
Voluntary turnover rate of staff aged 40-49	0.54%
Voluntary turnover rate of staff aged 50 and above	0.10%

Supply chain management

Dynamic and in-compliance management of suppliers

Tsingtao Brewery strictly abides by the laws and regulations including the *Food Safety Law of the People's Republic of China*, *National Food Safety Standard Food Additive Usage Standard* and the *Sanitary Licensing Regulations for Production Enterprises of Disinfection Products*. Meanwhile the company has established and followed a series of internal management rules including the *Tsingtao Brewery's Supervision and Management System for Bidding*, *Bidding Management Process of Tsingtao Brewery*, *Standard Processes for the Entrance, Cooperation and Withdrawal of Suppliers of Tsingtao Brewery* and the *Rules for Procurement Operators*. We always ask suppliers to sign the *Commitment for Clean Service* before bidding to make sure business ethics are well performed. We hold non-scheduled supplier meetings by category annually, letting them know the development plan, managerial concepts and requirement of Tsingtao Brewery through visiting and auditing to improve their capability on exercising social responsibility and sustainable development, and let them grow together with Tsingtao Brewery.

The company also undertakes verification on suppliers for their performances in quality, safety, environmental protection and social responsibility, and strictly requires suppliers operate in accordance with related national, provincial and municipal environmental laws and regulations. In the course of sourcing new suppliers and auditing existing suppliers, we have included the ISO 9001,

ISO 14001 and ISO 22000 into the scope of certification requirements for suppliers.

The company built the file management mechanism for suppliers which was closely related to contract signing. According to laws and regulations, we have established the *Checklist of Required Certificates with Suppliers* for raw material, and all certificates and third-party testing reports are required. A list of qualified suppliers of materials in close contact with beer has been settled with a dynamic management of the list. We conduct the designated third-party testing mechanism for samples of materials in close contact with beer collected by Tsingtao Brewery. Those suppliers failed to meet the requirements of certificates or testing will lose the qualification for cooperation with us. Within the reporting period we have introduced in 49 new raw material suppliers and removed 39 listed suppliers.

The company conducts with partner suppliers annual and onsite examinations and comprehensive evaluations in the fields including food safety, quality, service and actual supply completion rate with key attention to food safety, quality control and environmental protection outcome improvement. In 2021 our partner suppliers all reached related standards and firmly supported the production of Tsingtao Brewery.

Number of non-production materials suppliers: **1,034**

Number of production materials suppliers (raw and auxiliary materials, packaging materials, additives etc.): **around 656**

In 2021 there were **1,690** applicable suppliers according to the company's statistics.

Over **99%** of them were local Chinese suppliers.

Helping suppliers to succeed

Combatting the COVID-19 together

The company instructed suppliers on epidemic prevention and control supplies preparation, issuing measures on goods sterilisation and individual protection. Video or telephone conferences were convened and raises on logistics costs were covered to help suppliers with their production. In 2021 the company and its partners all avoided COVID-19 cases, because of which the production was not interrupted.

Win-win achieved through financial support

As suppliers were financially stressed by the rise of bulk commodity prices, the company provided 180 million yuan to upstream bottle suppliers to help them purchase raw materials and continue production. The company arranged pre-payment of 100 million yuan to upstream malt suppliers to purchase raw materials in time, support partner's normal operation and production, ensuring the raw material supply and realising win-win.

Multiple dimensional cooperation for shared development

Actively research, apply and promote the application of new materials, technologies and techniques with supplier together, such as thinner tins and plastic films, cancel paper boards inside paper boxes, and apply domestic plastic grain materials inside the bottle cap, which not only reduced the purchasing cost, let both sides gain more benefits, but also reduced the consumption of raw materials and realised green and sustainable development.



A meeting with suppliers

Innovation and collaboration to win the future with suppliers together

Tsingtao Brewery has a wide sales network and the company fully respects and recognises each distributor, hoping to work with them together to win the future together!

TM Project for channel model reform

- Reform coverage promoted 100%
- Reform system formed and two teams from manufacturer and distributor integrated

Golden eagle event

Themed "climbing the peak and win the future through innovation and collaboration", the company reached consensus with distributors to move on to quality leap-forward strategy which showed them the way and consolidated their confidence.



Comments from a third party

The COVID-19 pandemic has a serious impact on global economy, changing the pattern of consumption and living of global consumers, but also forced the Chinese beer industry to build new operational scenarios and consumption modes, accelerating the high-end development of the industry and profoundly influenced the business strategy and profitability of domestic beer companies.

In the year 2021 the beer industry in China still faced regional and repetitive outbreaks of the epidemic, plus external policies and macro-economic environment adjustment, as well as changes in global trade, although the epidemic had been under effective control then. Generally speaking, domestic beer companies already showed strong adaptability and anti-concussion capacity, and there was a favourable trend that both quantity and price of beer were on the rise.

The Environmental, Social and Governance Report 2021 is the review and conclusion on the sustainable development work of Tsingtao Brewery in 2021. We may find that Tsingtao Brewery has been improving corporate social responsibility management system, raising self-managing level, providing quality products and service to customers, collaborating employees as well as upstream and downstream value chains to share values and driving high-quality corporate development with innovative methods.

In the past year, Tsingtao Brewery continued with craftsmanship, promoted high-end brewing new products, used advanced food safety management system to keep product quality, innovatively extracted the attractive quality management mode based on digital technology, launched the new base for research and deepen the integration of production, education and research, promoted smart manufacturing, got listed in the "lighthouse factory" of industrial internet as a brewery for the first time in the world, and built new fashionable consumption space and immersive consumption experience scenarios with TSINGTAO 1903 pubs, beer festivals and Winter Olympics as scenario-based consumption themes.

Currently the beer industry is facing new window for development with high-end and multiple development clearly visible. While China is to accelerate the establishment of a "dual circulation" development pattern in which domestic economic cycle plays a leading role while international economic cycle remains its extension and supplement, beer companies should firmly master the major needs of customers, explore the potential for consumption, promote digital and smart upgrading, provide high quality product and service to raise the core competitiveness, practise commitments, help with the collaborated quality management in the industry and guide high quality consumption.

As the leader in China's beer industry, Tsingtao Brewery has a long inherited national brand history of 118 years. The company should stick to quality development concepts and open and transborder development thoughts. The company should practise the concept of green, low-carbon, circular and sustainable production, showing the strengths and innovation in production and realise overtake in value in the field of sustainable development.



Appendix: *Environmental, Social and Governance Indices*

ESG Indices			Page of disclosure
Environmental			
A1: Discharge	General disclosure	Relating to the discharge of waste gas and greenhouse gases, drain contamination to water and land, generation of hazardous or harmless wastes etc.: (a) policies; and (b) documents on conforming to relative laws and regulations with essential impacts to publishers	P26-37
	A1.1	Discharge data	P30-35
	A1.2	Direct (scope 1) and indirect (scope 2) emission of greenhouse gases (tonne) and (if applicable) density (per unit production or per facility)	P33-34
	A1.3	Total hazardous waste (tonne) and (if applicable) density (per unit production or per facility)	P36
	A1.4	Total harmless waste (tonne) and (if applicable) density (per unit production or per facility)	P36
	A1.5	Description of goals for discharge and procedures taken to achieve them	P30-31P33-35
	A1.6	Description of methods of treating hazardous and harmless wastes, goals for waste reduction and procedures taken to achieve them	P36
A2: Resource usage	General disclosure	Policies on effectively using resources (i.e. energy, water and other raw materials)	P29-32
	A2.1	Total consumption (1,000 kWh) and density (per unit production or per facility) of direct and/or indirect energy (electricity, gas or oil) by category	P32
	A2.2	Total water consumption and density (per unit production or per facility)	P29
	A2.3	Description of goals for energy efficiency and procedures taken for them	P32
	A2.4	Description of problems on acquiring suitable water source, goals for water efficiency and procedures taken for them	P29
	A2.5	Total packaging material consumption (tonne) and (if applicable) per unit consumption	P36
A3: Environment and natural resources	General disclosure	Policies to diminish major impacts to the environment or natural resources by the publisher	P26-37
	A3.1	Description of major impacts to the environment or natural resources by business activities, and actions taken to control the impacts	P26-37
A4: Climate change	General disclosure	Identification and tackle existing or potential major climate-related policies that may cause impacts to the publisher	P33-35
	A4.1	Description of existing or potential major climate-related policies that may cause impacts to the publisher, and countermeasures	P33-35
Social			
B1: Employment	General disclosure	On remuneration, dismissal, recruitment, promotion, hours of work, holidays, equal opportunity, diversification, anti-discrimination and other treatment or welfare: (a) policies; and (b) documents on conforming to relative laws and regulations with essential impacts to publishers	P49-54
	B1.1	Total employee statistics in gender, employment category (full time/part time), age group and region	P55
	B1.2	Employee loss ratio statistics in gender, age group and region	P55
B2: Health and safety	General disclosure	On providing safe workplace and protecting employees from vocational hazards (a) policies; and (b) documents on conforming to relative laws and regulations with essential impacts to publishers	P46-48
	B2.1	Number and ratio of job-related fatalities in the past three years (including the reporting year)	P46
	B2.2	Loss of working days due to job-related injuries	P46
	B2.3	Description of measures taken for vocational health and safety, and related methods of execution and monitoring	P46-48

ESG Indices			Page of disclosure
Social			
B3: Development and training	General disclosure	Policies on improving employees' knowledge and skills to perform the duty and description of training activities	P47\50-52
	B3.1	Percentage of employees trained by gender and employment category (i.e. senior management, intermediate management etc.)	P50
	B3.2	Average hours of training for each employee by gender and employment category	P50
B4: Labour principles	General disclosure	On preventing child labour or forced labour: (a) policies; and (b) documents on conforming to relative laws and regulations with essential impacts to publishers	P49
	B4.1	Description of checking the recruitment practices to avoid child labour or forced labour	P49
	B4.2	Description of measures taken to eliminate cases of violation upon discovery	P49
B5: Supply chain management	General disclosure	Polices on managing environmental and social risks of the supply chain	P16\56-57
	B5.1	Number of suppliers by region	P56
	B5.2	Description of the convention of selecting suppliers, number of suppliers to undertake relative practices, and methods of execution and monitoring under conventions	P56
	B5.3	Description of the convention to identify the environmental and social risks over each link of the supply chain, and related measures on execution and monitoring.	P16\56-57
	B5.4	Description of the convention to choose multiple environment-friendly products and service when selecting the supplier, and related measures on execution and monitoring.	P56-57
B6: Product liability	General disclosure	On the health, safety, advertisement, tag and privacy facts of products and service, and remediation measures: (a) policies; and (b) documents on conforming to relative laws and regulations with essential impacts to publishers	P12-18
	B6.1	Percentage of sold or transported products to be recalled due to safety or health causes	P17
	B6.2	Number of complaints received on product or service, and the measures of reaction	P17
	B6.3	Description of convention on IPR protection	P8
	B6.4	Description of quality verification and product recall process	P16-17
	B6.5	Description of policies on consumer data and privacy protection, and related measures on execution and monitoring	P17
B7: Anti-corruption	General disclosure	On preventing bribery, blackmail, fraud and money laundering: (a) policies; and (b) documents on conforming to relative laws and regulations with essential impacts to publishers	P8
	B7.1	Number and results of lawsuits concluded on corruption by publisher or employees within the period of reporting	P8
	B7.2	Description of prevention measures and reporting methods, and related measures on execution and monitoring	P8
	B7.3	Description of trainings provided to directors and employees on anti-corruption	P7-8
B8: Community investment	General disclosure	Policies on understanding the community demands by involvement and bringing community benefits into consideration during business operations	P4-5\19-25\38-43
	B8.1	Focused area of contribution (i.e. education, environmental issues, labour requirement, health, culture, sports)	P24-25\37\41\53
	B8.2	Resources mobilised within the focused area (i.e. time, money)	P2-3\38-43

Your feedback

Dear readers,
Thank you for reading the *Tsingtao Brewery Co., Ltd. Environmental, Social and Governance Report 2021*. Please write any suggestions and comments you may have on the following feedback form and return it to us via post, fax or email. Your feedback is welcome.

Name:

Organisation:

Tel:

Email:

Which chapters provided you with the most important information?

1 The preface

☐

2 118 years just for brewing good beer

☐

3 For a better world

☐

4 Caring for the community

☐

5 Value chain in harmony

☐

6 Comments from a third party

☐



Your evaluation of the report

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	Good	Fair	Not good
· Readability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
· Cogency	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
· Layout design	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
· Overall impression	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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Your suggestions for our report next year