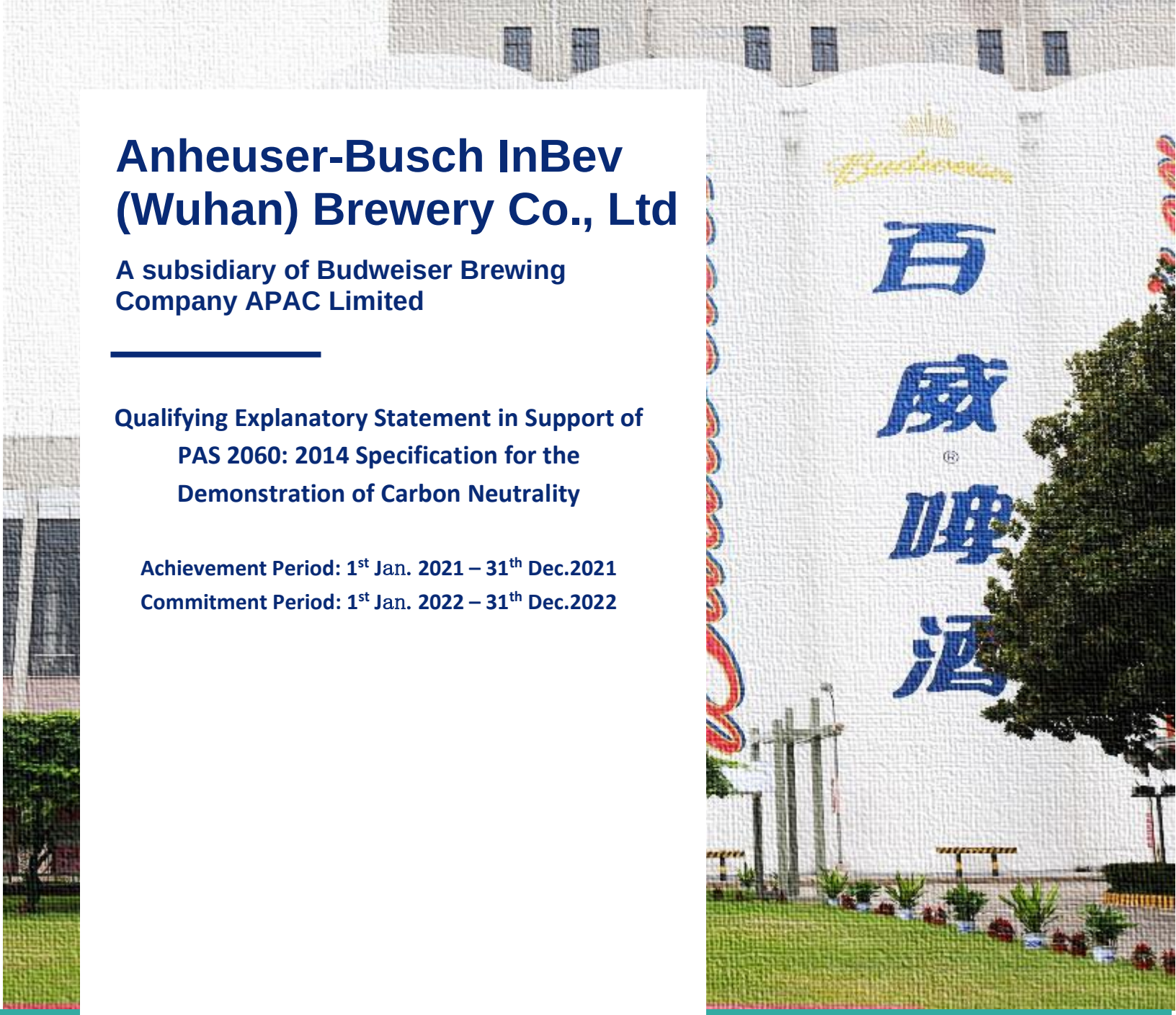
Anheuser-Busch InBev (Wuhan) Brewery Co., Ltd

A subsidiary of Budweiser Brewing Company APAC Limited



Qualifying Explanatory Statement in Support of PAS 2060: 2014 Specification for the Demonstration of Carbon Neutrality

Achievement Period: 1st Jan. 2021 – 31th Dec.2021
Commitment Period: 1st Jan. 2022 – 31th Dec.2022

16 MAY 2022

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Prepared by: Anheuser-Busch InBev (Wuhan) Brewing Co., Ltd

BUDWEISER BREWING COMPANY APAC
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1.0 INTRODUCTION

Budweiser is the world's famous beer brand and was introduced in 1876 in St. Louis, Missouri, when Adolphus Busch set out to create the United States' first truly national beer brand - brewed to be universally popular and transcend regional tastes. Since then, Budweiser has been enjoyed around the world by a growing number of consumers in over 80 countries. In 1995, it formally entered the Chinese market and rapidly occupied the leading position with its excellent taste and quality.

Anheuser-Busch InBev is a publicly-traded company (Euronext: ABI) based in Leuven, Belgium, with American Depositary Receipts on the New York Stock Exchange (NYSE: BUD). It is the leading global brewer and one of the world's top five consumer products companies. As a subsidiary of Anheuser-Busch InBev, Budweiser Brewing Company APAC Limited ("Bud APAC") is the largest beer company in Asia Pacific with China, India, South Korea and Vietnam as its principal markets . Bud APAC is listed on the Hong Kong Stock Exchange under the stock code "1876" and is a Hang Seng Composite Index member.

Anheuser-Busch InBev (Wuhan) Brewing Co., Ltd, a subsidiary of Budweiser Brewing Company APAC Limited (**hereinafter called** WUH Brewery) is one of the most important brewery that Anheuser-Busch InBev deployed in its APAC Zone, it is also the 1st brewery to produce Budweiser outside of North America. Bud APAC emphasizes ESG, which is environmental, social and governance. Especially on the environmental aspect, it has published its own 2025 Sustainable Development Plan with specific targets and sustainable tracking strategies for the whole society. Which is, by the year 2025, "100% of our direct farmers are skilled, connected and financially empowered","100% of our product is in packaging that is returnable or made from majority recycled content","100% of our communities in high-stress areas have measurably improved water availability and quality","100% of our purchased electricity comes from renewable sources & 25% reduction of carbon emissions across our value chain".

To reinforce its leading position of sustainability, Bud APAC aims at achieving carbon neutrality for its Wuhan Brewery (WUH Brewery), one of the most representative breweries with an excellent energy management structure and technical investment. WUH Brewery is committing to becoming carbon neutral for Scopes 1-2 at the company level for the calendar year of 2021.

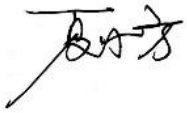
This document forms the PAS 2060 Qualifying Explanatory Statement to demonstrate that WUH Brewery has achieved carbon neutrality in accordance with PAS 2060 for the calendar year of 2021, with a commitment to maintaining carbon neutrality through the calendar year of 2022.

This is the first declaration of either commitment or achievement towards carbon neutrality by WUH Brewery. And this document will be updated at least every 12 months to reflect WUH Brewery's status toward its carbon neutrality targets. The report is publicly available on http://www.budweiserapac.com.

2.0 DECLARATION OF COMMITMENT TO CARBON NEUTRALITY

In accordance with PAS 2060, Anheuser-Busch InBev (Wuhan) Brewery Co., Ltd has achieved Carbon neutrality for the calendar year of 2021, and will maintain to 31st Dec. 2022 for commitment.

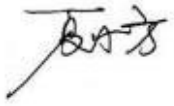
Signed by **Xiaofang Xia**



The Brewery Manager of Anheuser-Busch InBev (Wuhan) Brewing Co., Ltd

Table 1. PAS 2060 Qualifying Explanatory Statement Information Summary

PAS 2060: 2014 Requirement	Compliance with requirements
Individual responsible:	Xiaofang Xia The Brewery Manager of Anheuser-Busch InBev (Wuhan) Brewing Co., Ltd
Entity making declaration:	Anheuser-Busch InBev (Wuhan) Brewing Co., Ltd (a subsidiary of "Budweiser Brewing Company APAC Limited")
Subject of PAS 2060 declaration:	Scope 1 and 2 operational emissions from WUH Brewery
Description of subject:	See Section 1
Rationale for selection of the subject:	WUH Brewery is the first brewery in China to produce Budweiser and has established a robust energy management system through years of effort. WUH Brewery has invested significantly in energy saving, emission reduction and new technology transformation in the past years, and has already established a comprehensive system to track GHG emissions under the support of APAC Zone Brewery Support team. WUH Brewery has achieved a great improvement in the reduction of GHG emissions and achieved Carbon Neutrality based on the standard of PAS 2060. WUH Brewery is not only the benchmark of GHG emission brewery within the group but also recognized

PAS 2060: 2014 Requirement	Compliance with requirements
	by the local government as a near-zero carbon benchmarking enterprise.
Boundaries of the subject	Covering Scope 1 and 2 operational emissions of WUH Brewery, which is located at Shangshou, Qinduankou, Hanyang District, Wuhan City, Hubei Province.
What type of conformity assessment has been undertaken?	Self validation
Confirmation that methodology was applied in conformance with PAS 2060:2014	The application of the methodology conforms to principles set out in clause 6.1.2 of PAS 2060:2014.
Baseline date for PAS 2060: 2014 program:	1st January 2021
Achievement period:	1st Jan. 2021- 31th Dec. 2021
Commitment period:	1st Jan. 2022- 31th Dec. 2022
Standard for assessment of GHG emissions	WBCSD/WRI GHG Protocol, Corporate Accounting and Reporting Standard
Justification of assessment method	The application of the methodology conforms to principles set out in PAS 2060:2014.
Carbon Footprint Results	9,336 tCO_{2e}
Senior Representative Signature	The Brewery Manager of Anheuser-Busch InBev (Wuhan) Brewing Co., Ltd: 

3.0 BUDWEISER WUH CARBON FOOTPRINT

3.1 Introduction

This section outlines WUH Brewery's carbon footprint for the calendar year of 2021. It will assist in prioritizing key action areas for carbon reduction.

The terms "carbon emissions" and "greenhouse gas (GHG) emissions" are used interchangeably throughout the report.

3.2 Period

The baseline period is for the calendar year of 2021.

3.3 Methodology

WUH Brewery has ensured the use of the best practice standards for GHG reporting using the WBCSD/WRI GHG Protocol, Corporate Accounting and Reporting Standard (revised edition). This approach is recommended by PAS 2060:2014 Specification for Demonstration of Carbon Neutrality by BSI and other standards including ISO14064-1:2014.

The WBCSD/WRI GHG protocol requires that an organization report its direct GHG emissions, as well as indirect emissions. Definitions are as follows:

- Scope 1 (direct) – emissions from GHG sources owned or controlled by the organization.
- Scope 2 (indirect) – emissions from the generation of imported electricity, heat, or steam consumed by the organization

100% of Scope 1 and Scope 2 emissions are included.

Emissions are calculated and reported in tons of CO_2 equivalent (tCO_{2e}), in line with PAS 2060 and best practices, which requires the inclusion of carbon dioxide and other six GHGs included by the Kyoto protocol, namely methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride (SF_6), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and nitrogen trifluoride (NF_3).

Each GHG has a different capacity to cause global warming and is compared to carbon dioxide. The latest 100-year time horizon global warming potentials (GWP) relative to CO_2 updated in IPCC 6th Assessment Report (https://www.ipcc.ch/report/ar6/wg1/#FullReport) was referred to during the calculation.

3.4 Organizational and Operational Boundaries

The footprint includes carbon emission associated with Anheuser-Busch InBev (Wuhan) Brewing Co., Ltd, which is located at Shangshou, Qinduankou, Hanyang District, Wuhan City, Hubei Province.

Geographic coordination is 30°35' northern latitude, 114°9' east longitude.

We have included emissions where WUH Brewery has operational control (as determined by the GHG protocol).

3.5 Total Carbon footprint

The GHG emissions for WUH Brewery for the calendar year of 2021 are 9,336 tCO_{2e}.

Per the process characteristics, we've breakdown the Scope 1 GHG emissions that are directly produced by the WUH Brewery into 4 different categories:

- **Stationary Combustion:** from the natural gas combustion for the thermal supplement while the biomass boilers cannot provide sufficient steam to support the peak season, or when biomass boilers are under maintenance per the PM plan or legal mandatory requirements.
- ***Mobile Combustion:*** WUH Brewery is a factory with 7*24h operation. Commuting & other administration services are the main source of using diesel and gasoline fuels, which lead to GHG emissions.
- ***Fugitive Emissions:*** beer production in WUH Brewery requires chilling sources to create a varied low-temperature environment for process needs. The refrigerants used in the chiller systems and air conditioning systems become inevitable fugitive emissions over the years. Additionally, the CO_2 fire extinguishers used for firefighting purposes also produce fugitive GHG emissions. Besides that, fugitive emission of methane from the domestic wastewater septic tanks was also considered.
- ***Process Emissions:*** WUH Brewery recovered all CO_2 generated from the beer production process and then supply it for beer bottling to realize zero discharge. However, there is still a small amount of CO_2 emitted during the filling process.

The following Tables detail the breakdown of emissions by scopes and sources.

Table 1 GHG Emissions Breakdown for scope 1

Scope 1	Emission sources	tCO_{2e}	%
1	**Stationary Combustion**	**9036**	**96.8**
1.1	Natural gas combustion for the thermal supplement	8960	
1.2	LPG	75.84	
2	**Mobile Combustion**	**133**	**1.4**
2.1	Diesel for administration use	122	
2.2	Gasoline for owned vehicles	11	
3.	**Fugitive Emissions**	**11**	**0.1**
3.1	Fugitive SF6	0	
3.2	Fugitive refrigerants (e.g.R410A)	0	
3.3	Fugitive CO_2 emission from CO_2 Fire Extinguishers	0.03	
3.4	Fugitive CH_4 emission from Septic Tanks	11	

Scope 1	Emission sources	tCO_{2e}	%
4	**Process Emissions**	**157**	**1.7**
4.1	CO_2 emission from beer bottling	157	
	Total for scope 1	**9336**	

Table2 GHG Emissions Breakdown for scope 2

Scope 2	Emission sources	tCO_{2e}	%
1	Purchased electricity	0	0
2	Purchased heat and steam	8931	
	Total for scope 2	**8931**	

The sources of data, emission factors as well as assumptions and calculations are attached in APPENDIX A: DATA AND EMISSIONS FACTORS.

Aside from the above, some emission sources can be excluded from the footprint quantification since they are biogenic sources. Refer to Table 3.

Table 3 Biogenic Sources

Scopes	Emission sources	tCO_{2e}
Scope 1	Purchased CO2 from Non-industrial production	**199**
Scope 1	Sludge Gas	**1372**
Scope 2	Purchased steam from contractor using biomass	**8931**
Total		**10502**

Table 4 Total GHG Emissions

During 1 January 2021 to 31 December 2021, total Scope 1 and Scope 2 GHG emissions of WUH Brewery was 9336 tCO2e.

Item	Scope 1	Scope 2	Total
Total Emission	9336	0	9336

3.6 Exclusion

The following activities/premise within WUH Brewery sharing the electricity and steam are excluded because they were operated by the different entities: Office area leased by Anheuser-Busch Enterprise Management (Shanghai) Co., LTD. Wuhan Branch.

1) Technical Development Building.
2) Bud APAC Training Center

4.0 CARBON MANAGEMENT PLAN

4.1 Introduction

As part of its broader sustainability journey, WUH Brewery aims to achieve 100% renewable electricity, 100% heat from renewable resource (biomass in this case),a combination of the purchasing of carbon offsets and the development of carbon reduction projects.

This section outlines WUH Brewery's general plan with specific measures to reduce carbon footprint. The carbon reduction management plan will be subject to an annual assessment of performance as per the strategy set out by the APAC ZBS team and WUH Brewery.

4.2 Ongoing reduction in emissions

WUH Brewery 2021 carbon footprint is used as a base year since this is the first full calendar year for which the data is collected. WUH Brewery has implemented a range of measures to reduce its carbon footprint in its premise, these include:

1) Stationary combustion reduction:

Thermal	
Supply-side	1. WUH Brewery has increased the recovery rate of biogas from the wastewater treatment process from 70% to more than 90% by installing and upgrading the biogas recovery system, which has significantly replaced the consumption of natural gas. 2. WUH Brewery has pursued to make the thermal source is mostly supplied by biomass source boiler located within the brewery.
Consumer side	1. WUH Brewery has established a brewery-level heat recovery center, which has effectively reduced the consumption of steam by recycling afterheat from the production process and applying secondary classification and distribution. 2. WUH Brewery launched several pilot projects like installing an air source heat pump to collect heat loss within the brewhouse area.

Electricity	
Supply-side	WUH Brewery has signed the power purchase contract with a hydropower supplier (Qingjiang hydropower station) directly, which enable WUH Brewery to use 100% renewable electricity in 2021
Consumer side	WUH Brewery has executed a series of Electric-saving projects, such as using LED as the main lighting source in office, production and logistic area; replacing obsolete equipment with the energy-saving model, e.g. high efficiency motors, magnetic levitation blower, etc.

2) Mobile combustion:

Green commuting	To reduce diesel or gasoline consumption from employees' commuting services and other administration usage purposes, WUH Brewery has changed all the shuttle buses into electric models and installed 4 sets of charging piles in the brewery as supporting facilities since Oct. 2021.
Green in-plant vehicles	WUH Brewery has already utilized 100% electric forklift trucks with complete charging facilities since 2013

3) Fugitive emission:

WUH Brewery has applied a series of maintenance programs to minimize system failure and achieved zero refrigerant leakage.

4) Process emission:

WUH Brewery has installed a complete recovery system to recover the carbon dioxide generated from beer fermentation and then supply CO_2 for beer bottling, which minimizes the waste from the process, also reduces the CO_2 procurement.

5) Nurturing green value chain:

- WUH Brewery has established a co-development strategy among suppliers aimed at optimizing the level of management and reducing GHG emissions through the whole value chain, which is called VSA/SSA project.
- WUH Brewery encourages suppliers to use the electric vehicle to provide logistic services, and it has already established relative facilities to help to create favorable conditions.
- WUH Brewery applied lightweighted glass bottles project as much as possible to save emissions from the production and shipping of beer bottles.
- WUH Brewery has a complete recycling coalition system aimed at different by-products, another aspect seeking to create an environment-friendly value chain.

All of the practices listed above and more are ongoing with continual improvement at WUH Brewery.

4.4 Future emissions reduction plan

To create a journey with continual and sustainable carbon reduction, the following projects that will help to reduce WUH Brewery's overall footprint directly:

1) Stationary combustion:

Further technical inputs on optimizing the energy supplement structure, including but not limited to:

- Research new type pf biomass steam engine and improve the proportion of renewable source of thermal supplement.
- Further, improve the biogas utilization rate and optimize the efficiency of the biological treatment system.
- Photovoltaic power and other renewable sources pilot within the brewery.
- Increased investments in energy efficiency through the brewery via CSD project.

2) **Mobile combustion:**

Since WUH Brewery has already realized green commuting and logistics from self-owned properties and internal usage, it will pay more attention to nurturing the green shipment environment through the whole value-chain friends:

- Additional investment in electric vehicles for business purposes.
- Continued investment in charging facilities to improve the proportion of electric vehicles from outsourced suppliers.

3) **Fugitive emission:**

- Digital (Tech) investigation helps to optimize the management of the equipment and the progress of the production to reduce CO_2 emission.
- Sourcing a new type of refrigerant with lower GWP as an alternative.

4) **Process emission:**

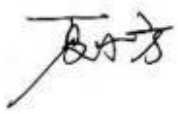
- Further exploration to improve management of production plan v.s. energy consumption, to minimize the procurement of outsourcing CO_2 as much as possible.

4.5 The use of carbon offsets

For unavoidable GHG emissions within the operation, WUH Brewery purchased carbon offsets to satisfy requirements for carbon-neutral declaration. The credits are sourced from projects that meet the following criteria:

1) Genuine, additional reductions in GHG emissions-free of double counting.
2) A high level of confidence in permanence and alignment with our value chain and communities.
3) Verified by an independent, certified third-party verifier & Supported by publicly available project documentation.
4) Issued after the emission reduction has taken place & Stored and retired in an independent and credible registry.

5.0 DECLARATION OF ACHIEVEMENT OF CARBON NEUTRALITY FOR 2021

PAS 2060: 2014 Requirement	Compliance with requirements
Achievement period	1st Jan. 2021- 31th Dec. 2021
Carbon footprint of the subject during the achievement period	9,336 tCO_{2e}
Means by which reductions have been achieved	Carbon offsetting
Standard and methodology used to achieve carbon offset	See Section 6.
Carbon offsetting information required to comply with clause 9.1.2	See Section 6
What type of conformity assessment has been undertaken?	Self validation
Date	22nd February 2022
Senior Representative	The Brewery Manager of Anheuser-Busch InBev (Wuhan) Brewing Co., Ltd:  Xiaofang Xia (22nd February 2022, 12:26 Beijing Time)

6.0 CARBON OFFSETTING

Carbon offsets equivalent to 10,000 tCO_2e have been purchased to achieve carbon neutrality for WUH Brewery for the calendar year of 2021. The following information covers the confirmed offset strategy for the period of carbon neutrality.

Project Title	Hekou Hydropower Station, Zi'er River, Jiulong County, Ganzi Tibetan Autonomous Prefecture, Sichuan Province
Project Record Number	0439
Country	China
Project Type	Renewable Energy (Emission reduction projects developed using the methodology filed by the national development and Reform Commission)
Project Standard	Chinese Certified Emission Reduction, CCER
Methodology Used	CM-001-V01 Consolidated baseline methodologies for grid-connected electricity generation from renewable sources (version 1). (Refers to ACM0002 for CDM project, Ver 13.0, UNFCC-EB)
Vintage	1st Jan. 2013 – 7th May. 2015
Project documentation database link	*All the information comes from the China Certified Emission Reduction Exchange Info-Platform, Organized by the Department of Climate Change, National Development and Reform Commission.*
Public of the record	http://cdm.ccchina.org.cn/Detail.aspx?newsId=63511&TId=19
Monitoring report	http://cdm.ccchina.org.cn/archiver/cdmcn/UpFile/Files/Default/20160203141923423563.pdf
Retirement	Retirement was made on 1 Dec 2021 in the name of China Carbon Investment (Tianjin) Technology Co., LTD.

This transaction was made through Tianjin Climate Exchange Market, with a certificate issued to demonstrate the deal.

天津排放权交易所
TIANJIN CLIMATE EXCHANGE

碳 中 和 证 书
Certificate of Carbon Neutrality

证书编号（Certificate No.:TCX-CNT-2021013）

百威（武汉）啤酒有限公司 通过天津排放权交易所购买“甘孜州九龙县子耳河河口水电站项目（项目备案号0439）” 于2013年 1月 1日至 2015 年 5 月 7 日产生的 10,000 吨的核证自愿减排量（CCER），用于中和“百威（武汉）啤酒有限公司2021年所产生的范围1和范围2”的碳排放，以实现碳中和。

Anheuser-Busch InBev (Wuhan) Brewing Co., Ltd. purchased 10,000 tons of Chinese Certified Emission Reduction (CCER) through Tianjin Climate Exchange from “Zier River Hekou Hydropower station, Jiulong County, Ganzi Prefecture” during 1st January 2013 and 7th May 2015. The emission reductions could be used to neutralize carbon emission from “Anheuser-Busch InBev (Wuhan) Brewing Co., Ltd. Scope 1 & 2 of 2021”, to achieve carbon neutral.

天津排放权交易所有限公司
Tianjin Climate Exchange
2021年12月1日
December 1st, 2021

APPENDIX A: DATA AND EMISSIONS FACTORS

Scope 1	Sources	Parameters			
1	**Stationary Combustion**	**CO_2 Emission Factor**	**Carbon Oxidation Factor**	**CH_4 Emission Factor**	**N_2O Emission Factor**
1.1	Natural gas combustion for the thermal supplement	Guidelines for Monitoring, Quantifying and Reporting Greenhouse Gas Emissions of Industrial Enterprises in Hubei Province (Trial), Table 2 & Table 3.		2006 IPCC Guidelines for National Greenhouse Gas Inventories (2019 Refinement).	
1.2	LPG				
2	**Mobile Combustion**	**CO_2 Emission Factor**	**Carbon Oxidation Factor**	**CH_4 Emission Factor**	**N_2O Emission Factor**
2.1	Diesel for administration use	Guidelines for Monitoring, Quantifying and Reporting Greenhouse Gas Emissions of Industrial Enterprises in Hubei Province (Trial), Table 4.	/	2006 IPCC Guidelines for National Greenhouse Gas Inventories (2019 Refinement).	
2.2	Gasoline for owned vehicles				
3	**Fugitive Emissions**	**Parameters**			
3.1	Fugitive SF_6	Sixth Assessment Report of the Intergovernmental Panel on Climate Change			
3.2	Fugitive refrigerants	Sixth Assessment Report of the Intergovernmental Panel on Climate Change			
3.3	Fugitive CO_2 emission from CO_2 Fire Extinguishers	2006 IPCC Guidelines for National Greenhouse Gas Inventories (2019 Refinement)			
3.4	Fugitive CH_4 emission from Septic Tanks	2006 IPCC Guidelines for National Greenhouse Gas Inventories (2019 Refinement)			
4	**Process Emissions**	**Parameters**			
4.1	CO_2 emission from beer bottling	Methods and Reporting of Greenhouse Gas Emissions from Food, Tobacco, Alcohol, Beverage, and Refined Tea Enterprises (Trial)			
Scope 2	**Emission sources**	**Parameters**			
1	Purchased heat and steam	Methods and Reporting of Greenhouse Gas Emissions from Food, Tobacco, Alcohol, Beverage, and Refined Tea Enterprises (Trial)			
Biogenic	**Emission sources**	**CO2 Emission Factor**	**Carbon Oxidation Factor**	**CH4 Emission Factor**	**N2O Emission Factor**
Scope 1	Purchased CO_2 from Nanyang Zhongtian	2006 IPCC Guidelines for National Greenhouse Gas Inventories (2019 Refinement)			
Scope 2	Purchased steam from contractor using biomass	2006 IPCC Guidelines for National Greenhouse Gas Inventories (2019 Refinement).			

APPENDIX B: QUALIFYING EXPLANATORY STATEMENTS (QES) CHECKLISTS

Following PAS 2060: 2014 requirements, the QES checklists to support the declaration of commitment to carbon neutrality is provided in the table below.

Table B1. Checklist for QES supporting declaration of commitment to carbon neutrality (based on Table B.1 of the PAS 2060: 2014 standard).

QES Checklist Requirements	Status	Sections in QES
1) Identify the individual responsible for the evaluation and provision of data necessary for the substantiation of the declaration including that of preparing, substantiating, communicating and maintaining the declaration.	√	Refer to Section 2
2) Identify the entity responsible for making the declaration.	√	Refer to Section 2
3) Identify the subject of the declaration.	√	Refer to Section 2
4) Explain the rationale for the selection of the subject.	√	Refer to Section 2
5) Define the boundaries of the subject.	√	Refer to Section 2
6) Identify all characteristics (purposes, objectives, or functionality) inherent to that subject.	√	Refer to Section 2
7) Identify and take into consideration all activities material to the fulfillment, achievement, or delivery of the purposes, objectives, or functionality of the subject.	√	Refer to Sections 2 and 3
8) Select which of the 3 options within PAS 2060 you intend to follow.	√	Refer to Section 2
9) Identify the date by which the entity plans to achieve the status of "carbon neutrality" of the subject and specify the period for which the entity intends to maintain that status.	√	Refer to Section 2
10) Select an appropriate standard and methodology for defining the subject, the GHG emissions associated with that subject and the calculation of the carbon footprint for the defined subject.	√	Refer to Section 2
11) Justify the selection of the methodology chosen.	√	Refer to Section 2
12) Confirm that the selected methodology was applied following its provisions and the principles set out in PAS 2060.	√	Refer to Section 3.3
13) Describe the actual types of GHG emissions, classification of emissions (Scope 1, 2, or 3) and size of the carbon footprint of the subject exclusive of any purchases of carbon offsets.	√	Refer to Section 3.3
a) All greenhouse gases shall be included and converted into tCO2e.	√	Refer to Section 3.3
b) 100% Scope 1 (direct) emissions relevant to the subject shall be included when determining the carbon footprint.	√	Refer to Section 3.5
c) 100% Scope 2 (indirect) emissions relevant to the subject shall be included when determining the carbon footprint.	√	Refer to Section 3.5
d) Where estimates of GHG emissions are used in the quantification of the subject carbon footprint (particularly when associated with scope 3 emissions) these shall be determined in a manner that precludes underestimation.	√	Refer to Section 3.5
e) Scope 1, 2, or 3 emission sources estimated to be more than 1% of the total carbon footprint shall be taken into consideration unless evidence can be provided to demonstrate that such quantification would not be technically feasible or cost-effective.	√	Refer to Sections 3.3 and 3.5.

QES Checklist Requirements	Status	Sections in QES
f) The quantified carbon footprint shall cover at least 95% of the emissions from the subject.	√	Refer to Sections 3.3 and 3.5.
g) Where a single source contributes more than 50% of the total emissions, the 95% threshold applies to the remaining sources of emissions.	√	Natural gas combustion contributes more than 50% of the total emission. Refer to Section 3.5.
h) Any exclusion and the reason for that exclusion shall be documented.	√	Refer to Section 3.6.
14) Where the subject is an organization/company or part thereof, ensure that:		
a) Boundaries are a true and fair representation of the organization's GHG emissions (i.e., shall include all GHG emissions relating to core operations including subsidiaries owned and operated by the organization).	√	Refer to Section 3.4.
b) Either the equity share or control approach has been used to define which GHG emissions are included. Under the equity share approach, the entity accounts for GHG emissions from the subject according to its share of equity in the subject. Under the control approach, the entity shall account for 100% of the GHG emissions over which it has financial and/or operational control.	√	Refer to Section 3.4.
15) Identify if the subject is part of an organization or a specific site or location and treat it as a discrete operation with its purpose, objectives and functionality.	√	Refer to Section 3.4.
16) Where the subject is a product or service, include all Scope 3 emissions (as the lifecycle of the product/service needs to be taken into consideration).	NA	
17) Describe the actual methods used to quantify GHG emissions (e.g. use of primary or secondary data), the measurement unit(s) applied, the period of application and the size of the resulting carbon footprint.	√	Refer to Section 3.5.
18) Provide details of, and explanation for, the exclusion of any Scope 3 emissions.	NA	
19) Document all assumptions and calculations made in quantifying GHG emissions and in the selection or development of greenhouse gas emission factors.	√	Section 3.5 and Appendix A
20) Document your assessments of uncertainty and variability associated with defining boundaries and quantifying GHG emissions including the positive tolerances adopted in association with emission estimates.	√	Section 3.5 and Appendix A
21) Document carbon footprint management plan:	√	Refer to Section 4.
a) Make a statement of commitment to carbon neutrality for the defined subject.	√	Refer to Sections 2 and 4.
b) Set timescales for achieving carbon neutrality for the defined subject.	√	Refer to Section 5.
c) Specify targets for GHG reduction for the defined subject appropriate to the timescale for achieving carbon neutrality including the baseline date, the first qualification date and the first application period.	√	Refer to Section 4.
d) Document the planned means of achieving and maintaining GHG emissions reductions including assumptions made and any justification of the techniques and measures to be employed to reduce GHG emissions.	√	Refer to Section 4.
e) Specify the offset strategy including an estimate of the quantity of GHG emissions to be offset, the nature of the offsets and the likely number and type of credits.	√	Refer to Section 4.5 and Section 6
22) Implement a process for undertaking periodic assessments of performance against the Plan and for implementing corrective action to ensure targets are achieved.	√	Refer to Section 4.

QES Checklist Requirements	Status	Sections in QES
23) Where a subject is a non-recurring event such as weddings or concerts, identify ways of reducing GHG emissions to the maximum extent commensurate with enabling the event to meet its intended objectives before the event takes place and include post-event review to determine whether or not the expected minimization in emissions has been achieved.	NA	
24) For any reductions in the GHG emissions from the defined subject delivered in the period immediately before the baseline date and not otherwise taken into account in any GHG emissions quantification (historic reductions), confirm: • the period from which these reductions are to be included; • that the required data is available and that calculations have been undertaken using the same methodology throughout;	NA	
• that assessment of historic reduction has been made following this PAS, reporting the number of historic reductions claimed in parallel with the report of the total reduction.	NA	
25) Record the number of times that the declaration of commitment has been renewed without the declaration of achievement.	√	Refer to Section 4.
26) Specify the type of conformity assessment: a) independent third party certification; b) other party validation; c) self-validation.	√	Self validation
27) Include statements of validation where declarations of commitment to carbon neutrality are validated by a third-party certifier or second party organizations	NA	
28) Date the QES and have it signed by the senior representative of the entity concerned (e.g. CEO of a corporation; Divisional Director, where the subject is a division of a larger entity; the Chairman of a town council or the head of the household for a family group).	√	Refer to Section 2
29) Make QES publicly available and provide a reference to any freely accessible information upon which substantiation depends (e.g. via websites).	√	Refer to Section 1
30) Update the QES to reflect changes and actions that could affect the validity of the declaration of commitment to carbon neutrality.	√	Refer to Section 1

Table B2. Checklist for QES supporting declaration of achievement to carbon neutrality (based on Table B.2 of the PAS 2060: 2014 standard).

QES Checklist Requirements	Status	Sections in QES
1) Define standard and methodology used to determine its GHG emissions reduction	√	Refer to Section 5
2) Confirm that the methodology used was applied following its provisions and the principles set out in PAS 2060 were met.	√	Refer to Section 2 and 3
3) Justify the selection of the methodologies chosen to quantify reductions in the carbon footprint, including all assumptions and calculations made and any assessment of uncertainty.	√	Refer to Section 2 and 3
4) Describe how reductions have been achieved and any applicable assumptions or justifications	NA	This is the first declaration based solely on offsetting
5) Ensure that there has been no change to the definition of the subject.	NA	This is the first declaration period
6) Describe the actual reductions achieved in absolute and intensity terms and as a percentage of the original carbon footprint.	NA	This is the first declaration based solely on offsetting
7) State the baseline/qualification date.	√	Refer to Section 2
8) Record the percentage economic growth rate for the given application period used as a threshold for recognizing reductions in intensity terms	NA	
9) Explain circumstances where a GHG reduction in intensity terms is accompanied by an increase in absolute terms for the determined subject.	NA	
10) Select and document the standard and methodology used to achieve carbon offset.	√	Refer to Section 6
11) Confirm that		
a) Offsets generated or allowance credits surrendered represent genuine, additional GHG emission reductions elsewhere	√	Refer to Section 6
b) Projects involved in delivering offsets meet the criteria of additionality, permanence, leakage and double counting.	√	Refer to Section 6
c) Carbon offsets are verified by an independent third-party verifier.	√	Refer to Section 6
d) Credits from carbon offset projects are only issued after the emission reductions	√	Refer to Section 6
e) Credits from carbon offset projects are retired within 12 months from the date of the declaration of achievement	√	Refer to Section 6
f) Provision for the event-related option of 36 months to be added here	NA	
g) Credits from carbon offset projects are supported by publicly available project documentation on a registry which shall provide information about the offset project, quantification methodology and validation and verification procedures	√	Refer to Section 6
h) Credits from carbon offset projects are stored and retired in an independent credible registry	√	Refer to Section 6
12) Document the quantity of GHG emissions credits and the type and nature of credits purchased including the number and type of credits used and the period over which credits were generated		
a) Which GHG emissions have been offset	√	Refer to Section 6
b) The actual amount of carbon offset	√	Refer to Section 6
c) The type of credits and projects involved	√	Refer to Section 6

QES Checklist Requirements	Status	Sections in QES
d) The number and type of carbon credits used and the period over which the credits have been generated	√	Refer to Section 6
e) For events, a rationale to support any retirement of credits over 12 months including details of any legacy emission savings, taking into account	NA	
f) Information regarding the retirement/cancellation of carbon credits to prevent their use by others including a link to the registry or equivalent publicly available record, where the credit has been retired	√	Refer to Section 6
13) Specify the type of conformity assessment	√	Self validation
14) include statements of validation where declarations of achievement of carbon neutrality are validated by a third-party certifier or second party organizations	NA	
15) Date the QES and have it signed by the senior representative of the entity concerned	√	Refer to Section 5
16) Make QES publicly available and provide a reference to any freely accessible information upon which substantiation depends (e.g. via websites).	√	Refer to Section 1