Opinion Statement

Greenhouse Gas Emissions
Verification Opinion Statement

This is to verify that: Taiwan Cement Corporation
Hoping Branch Hoping Plant
No 263, Heping
Xiulin Township
Hualien County
972005
Taiwan(R.O.C.)

台灣水泥股份有限公司
和平分公司和平廠
臺灣
花蓮縣
秀林鄉
和平村和平路 263 號
972005

Holds Statement No: GHGEV 809687

Verification opinion statement

As a result of carrying out verification and validation procedures in accordance with ISO 14064-3:2019, it is the statement for mixed engagement including reasonable assurance for verification activity as well as validation and agreed-upon procedures (AUP) contains the following:

- The Greenhouse Gas Emissions with Taiwan Cement Corporation Hoping Branch Hoping Plant for the period from 2023-01-01 to 2023-12-31 was verified and validated.
- The verified organization-level greenhouse gas emissions include direct greenhouse gas emissions 2,337,475.5160 tonnes of CO_2 equivalent and indirect greenhouse gas emissions from imported energy 123,330.6340 tonnes of CO_2 equivalent.
- Taiwan Cement Corporation Hoping Branch Hoping Plant has defined and explained its own process and pre-determined criteria for significance of indirect Greenhouse Gas Emissions and quantify and report these identified significant emissions accordingly.

For and on behalf of BSI:

Managing Director BSI Taiwan, Peter Pu

Originally Issue: 2024-07-20 Latest Issue: 2024-08-04

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The Greenhouse Gas Emissions Verification activities are based on reasonable level of assurance:

- The data and information of greenhouse gas emissions are based on historical in nature, and no material misstatements for the period from 2023-01-01 to 2023-12-31 Greenhouse Gas Emissions calculation were revealed.
- Data quality was considered acceptable in meeting the principles as set out in ISO 14064-1:2018.
- The emission factor for electricity of year 2022 is 0.495 kgCO_2e per kWh.
- The others indirect emissions (Scope 3) category reference: "GHG protocol" documented in the Inventory Report, as shown in the table below:

EMISSIONS		Notes	tonnes CO_2e
Category 1: Direct GHG emissions and removals			**2,337,475.5160**
1.1	Stationary combustion		805,549.4833
1.2	Mobile combustion		244.0978
1.3	Industrial processes (anthropogenic systems)		1531,625.3101
1.4	Fugitive (anthropogenic systems)		56.6247
1.5	Land use, land use change and forestry		0.0000
Direct emissions in tonnes of CO_2e from biomass			81,929.4574
Category 2: Indirect GHG emissions from imported energy			**123,330.6340**
2.1	Indirect emissions from imported electricity	location-based approach	123,330.6340
2.2	Indirect emissions from imported energy (steam, heating, cooling and compressed air)		0.0000
Scope 3: Indirect emissions resulting from value chain activities			**351,322.5707**
1	Purchased goods and services		73,759.4943
2	Capital goods		35,922.8271
3	Fuel- and energy-related activities (not included in scope 1 or scope 2)		84,034.7929
4	Upstream transportation and distribution		50,727.2645
5	Waste generated in operations		17.2313
6	Business travel		12.9197
7	Employee commuting		460.3372
8	Upstream leased assets	NS	17.7676
9	Downstream transportation and distribution		46,596.5758
10	Processing of sold products		16,982.8673
11	Use of sold products	N/A	0.0000
12	End-of-life treatment of sold products		42,522.3408
13	Downstream leased assets	N/A	268.1522
14	Franchises	N/A	0.0000
15	Investments	N/A	0.0000

* NS: Non significant; N/A: Not applicable

Originally Issue: 2024-07-20 Latest Issue: 2024-08-04

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Validation

- BSI stated that it had not found any evidence to indicate that the assumptions, methods, and limitations that we cited in the statement did not provide a reasonable basis for our projections or forecasts.
- Based on BSI examination of the evidence, nothing comes to our attention which causes us to believe that these assumptions do not provide a reasonable basis for the forecast.
- The forecast is properly on the basis of the assumption, actual results are likely to be different from the forecast since anticipated events frequently do not occur as expected the variation may be material.

EMISSIONS		Notes	tonnes CO_2e
Category 5: indirect GHG emissions associated with the use of products from the organization			**59,505.2081**
5.1	Emissions or removals from the use stage of the product	Cement: 2,477,668.666 ton	16,982.8673
5.3	Emissions from end-of-life stage of the product	Cement: 2,477,668.666 ton	42,522.3408

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Statement No: GHGEV 809687

Agreed upon procedures (AUP)

- AUP are specific types of verification activities, BSI have performed the evidence-gathering procedures for the period from 2023-01-01 to 2023-12-31

- BSI do not express any assurance on the GHG emissions, removals and storage in listed below.

EMISSIONS		Notes	AUP Item(s)	tonnes CO_2e
Category 3: Indirect GHG emissions from transportation				**97,797.0973**
3.1	Emissions from upstream transport and distribution for goods	Use the Distance-based method	Goods Weight: 10,970,343.1610 tonne Road transport: 424,482,180.9674 tkm Marine transport: 386,433,416.2306 tkm	50,727.2645
3.2	Emissions from Downstream transport and distribution for goods	Use the Distance-based method	Goods Weight: 10,893,324.4000 tonne Road transport: 119,843,835.6500 tkm	46,596.5758
3.3	Emissions from Employee commuting	Use the Distance-based method	the bus: 249,624 pkm Train (domestic): 4,897,960 pkm walk: 15,230 pkm Car (gasoline): 737,407pkm Automobile (gas-electric hybrid): 56,975pkm Automobile (diesel): 6,901 pkm bicycle: 5,948 pkm Motorcycle (gasoline): 791,411 pkm Locomotive (electric): 67,441 pkm	460.3372
3.4	Emissions from Client and visitor transport	Use the Spend-based method and Use the Online calculator method		0.0000
3.5	Emissions from Business travels	Use the Spend-based method and Use the Online	the bus: 13,203 pkm Train (domestic): 84,701 pkm taxi:	12.9197

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		calculator method	797pkm airplane: 6,621 pkm High-speed rail (domestic): 470.42kg CO2e High-speed rail (overseas): 3,3352 pkm MRT: 1,688 pkm Motorcycle (gasoline): 54pkm	
Category 4: indirect GHG emissions from products used by organization				**193,752.1132**
4.1	Emissions from Purchased goods	Goods: Use the supplier-specific method Energy & Fuel: Use the Average-data method	Limestone: 4,525,119.7900 metric tons Clay: 251,238.9100 metric tons Silica sand: 63,680.1000 metric tons Slime: 4,040.3400 metric tons Fly ash: 283,135.7200 metric tons Bottom ash: 68,602.6400 metric tons Iron slag: 98,908.0000 metric tons Low alkali stone: 94,400 metric tons Gypsum: 142,887.0800 metric tons Grinding aid: 795.39 metric tons Bituminous coal: 319,757.0000 metric tons Diesel: 934.2545 metric tons Wood chips: 48,993.3600 metric tons Other fuels - SRF: 2,978.8400 metric tons Electricity: 249,152.7959 metric tons Motor gasoline: 13.9530 metric tons	157,794.2872
4.2	Emissions from Capital goods	Use the Average spend-based method	Total purchase amount: 1,406,544,311 yuan Optical instruments and clock products: 7,153,405 yuan Other industrial products: 107,800 yuan Communications and computer services industry: 1,139,857 yuan Transport work product: 3,992,741 yuan Computer electronic communication equipment products: 280,461,182 yuan Mechanical equipment products:	35,922.8271

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			290,458,370 yuan Construction project: 823,230,956 yuan	
4.3	Emissions from the disposal of solid and liquid waste	Use the waste-type-specific method	Scrap iron (recycling and reuse): 2,093,4400 kg Transportation distance: 121,256.1760 tkm	17.2313
4.4	Emissions from the use of assets	Use the Asset-specific method and Lessor-specific method	Emergency generator: 80.25 liters Air conditioner refrigerant: R-32 = 4.65 kg R-410A = 18.75kg Refrigerator refrigerant: R-134A = 0.1150 kg Water dispenser refrigerant: R-134A = 0.1150 kg Septic tank: 5,976 person hours electricity: 29,339.527 degrees Rental vehicle refrigerant (R-134A): 1.55kg	17.7676
4.5	Emissions from the use of services that are not described in the above subcategories	Use the other services-specific method		0.0000
Category 5: indirect GHG emissions associated with the use of products from the organization				**268.1522**
5.2	Emissions from downstream leased assets	Use the accounting for the total expected lifetime emissions from all relevant portion leased to other entities	Electricity:494,200kWh Refrigeration and refrigeration equipment: R-404A: 23.946kg R-449A: 1.47kg R-134A: 4.216kg Air conditioning equipment: R-410A: 111kg	268.1522
5.4	Emissions from investments	Use the investments-specific method		0.0000
Category 6: Indirect GHG emissions from other sources				**0.0000**
Franchises		Use the Franchise-specific method		0.0000

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Statement No: GHGEV 809687

The direct GHG emissions and removals(cat.1) and indirect GHG emissions from imported energy emissions(cat.2) were verified in selected branches and representative offices, including but not limited to the following:

Location	Verification Information
Taiwan Cement Corporation Hoping Branch Hoping Plant No. 263, Heping Xiulin Township Hualien County 972005 Taiwan(R.O.C.) 台灣水泥股份有限公司 和平分公司和平廠 臺灣 花蓮縣 秀林鄉 和平村和平路 263 號 972005	The Greenhouse Gas Emissions with Taiwan Cement Corporation Hoping Branch Hoping Plant for the period from 2023-01-01 to 2023-12-31 was verified, include direct greenhouse gas emissions 2,337,475.5160 tonnes of CO_2 equivalent and indirect greenhouse gas emissions from imported energy 123,330.6340 tonnes of CO_2 equivalent.

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Opinion Statement

Greenhouse Gas Emissions
Verification Opinion Statement

This is to verify that:

Taiwan Cement Corporation
Suao cement plant
No. 46, Yongchang Rd.
Suao Township
Yilan County
270001
Taiwan

台灣水泥股份有限公司蘇澳廠
台灣
宜蘭縣
蘇澳鎮
永昌路 46 號
270001

Holds Statement No: GHGEV 809691

Verification opinion statement

As a result of carrying out verification and validation procedures in accordance with ISO 14064-3:2019, it is the statement for mixed engagement including reasonable assurance for verification activity as well as validation and agreed-upon procedures (AUP) contains the following:

- The Greenhouse Gas Emissions with the Taiwan Cement Corporation Suao cement plant for the period from 2023-01-01 to 2023-12-31 was verified and validated.
- The verified organization-level greenhouse gas emissions include direct greenhouse gas emissions 1,120,125.1147 tonnes of CO_2 equivalent and indirect greenhouse gas emissions from imported energy 63,245.1650 tonnes of CO_2 equivalent.
- The Taiwan Cement Corporation Suao cement plant has defined and explained its own process and pre-determined criteria for significance of indirect Greenhouse Gas Emissions and quantify and report these identified significant emissions accordingly.

For and on behalf of BSI:

Managing Director BSI Taiwan, Peter Pu

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The Greenhouse Gas Emissions Verification activities are based on reasonable level of assurance:

- The data and information of greenhouse gas emissions are based on historical in nature, and no material misstatements for the period from 2023-01-01 to 2023-12-31 Greenhouse Gas Emissions calculation were revealed.
- Data quality was considered acceptable in meeting the principles as set out in ISO 14064-1:2018.
- The emission factor for electricity of year 2022 is 0.495 kgCO_2 per kWh.
- The others indirect emissions (Scope 3) category reference: "GHG protocol" documented in the Inventory Report, as shown in the table below:

EMISSIONS		Notes	tonnes CO_2e
Category 1: Direct GHG emissions and removals			1,120,125.1147
1.1	Stationary combustion		361,381.9076
1.2	Mobile combustion		126.6563
1.3	Industrial processes (anthropogenic systems)		758,561.5659
1.4	Fugitive (anthropogenic systems)		54.9850
1.5	Land use, land use change and forestry		0.0000
Direct emissions in tonnes of CO_2e from biomass			50,304.5785
Category 2: Indirect GHG emissions from imported energy			63,245.1650
2.1	Indirect emissions from imported electricity	location-based approach	63,245.1650
2.2	Indirect emissions from imported energy (steam, heating, cooling, and compressed air)		0.0000
Scope 3: Indirect emissions resulting from value chain activities			199,678.2809
1	Purchased goods and services		62,237.5461
2	Capital goods		10,815.9510
3	Fuel- and energy-related activities (not included in scope 1 or scope 2)		36,178.9935
4	Upstream transportation and distribution		32,287.5514
5	Waste generated in operations		3.4071
6	Business travel		2.8440
7	Employee commuting		94.9192
8	Upstream leased assets	NS	0.0000
9	Downstream transportation and distribution		20,377.1822
10	Processing of sold products		10,753.8908
11	Use of sold products	N/A	0.0000
12	End-of-life treatment of sold products		26,925.9956
13	Downstream leased assets	N/A	0.0000
14	Franchises	N/A	0.0000
15	Investments	N/A	0.0000

* NS: Non significant; N/A: Not applicable

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Validation

- BSI stated that it had not found any evidence to indicate that the assumptions, methods, and limitations that we cited in the statement did not provide a reasonable basis for our projections or forecasts.
- Based on BSI examination of the evidence, nothing comes to our attention which causes us to believe that these assumptions do not provide a reasonable basis for the forecast.
- The forecast is properly on the basis of the assumption, actual results are likely to be different from the forecast since anticipated events frequently do not occur as expected the variation may be material.

EMISSIONS		Notes	tonnes CO_2e
Category 5: indirect GHG emissions associated with the use of products from the organization			37,679.8864
5.1	Emissions or removals from the use stage of the product	Cement: 1,568,909.2900 mt	10,753.8908
5.3	Emissions from end-of-life stage of the product	Cement: 1,568,909.2900 mt	26,925.9956

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Agreed upon procedures (AUP)

- AUP are specific types of verification activities, BSI have performed the evidence-gathering procedures for the period from 2023-01-01 to 2023-12-31
- BSI do not express any assurance on the GHG emissions, removals, and storage in listed below.

EMISSIONS		Notes	AUP Item(s)	tonnes CO_2e
Category 3: Indirect GHG emissions from transportation				52,762.4968
3.1	Emissions from upstream transport and distribution for goods	Use the Distance-based method	Goods Weight: 878,687,321.8000 tonne Road transport: 113,660,629.2900 tkm Marine transport: 878,687,321.8000 tkm	32,287.5514
3.2	Emissions from Downstream transport and distribution for goods	Use the Distance-based method	Goods Weight: 457,349.86 tonne Road transport: 7,244,394.6780 tkm Marine transport: 643,325,655.0500 tkm	20,377.1822
3.3	Emissions from Employee commuting	Use the Distance-based method	Walk: 2,820.2560 pkm Automobile (gasoline): 457,061.0240 pkm Automobile (gas-electric hybrid): 41,440.3040 pkm Automobile (Diesel): 7,588.8000 pkm Bicycle: 524.7680 pkm Motorcycle (gasoline): 378,885.4720 pkm Motorcycle (electric): 7,924.0960 pkm Train: 16,960.2240 pkm	94.9192
3.5	Emissions from Business travels	Use the Spend-based method and Use the Online calculator method	Bus: 18,600.6000 pkm Train: 3,631.6000 pkm Automobile: 1,037.8000 pkm Taxi: 31.8000 pkm High speed rail: 0.4222 tonCO_2e Mass Rapid Transit: 1,573.6400 pkm	2.8440

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Category 4: indirect GHG emissions from products used by organization				109,235.8977
4.1	Emissions from Purchased goods	Goods: Use the supplier-specific method Energy & Fuel: Use the Average-data method	Limestone: 1,242,780.0000 mt Clay: 167,275.2200 mt Silica sand: 37,378.7600 mt Iron slag: 51,596.3700 mt Air-cooled hearthstone: 3,784.2100 mt Hearthstone powder: 11,763.9500 mt Plaster: 3,696.8500 mt Plaster: 149,776.0000 mt Incineration of recycled pellets: 5,462.0200 mt Coal burning fly ash: 68,632.0800 mt Coal burning bottom ash (or bottom ash containing coal burning fly ash): 19,487.4300 mt Calcium fluoride sludge: 15,995.5200 mt Desulfurization inorganic sludge: 5,227.1700 mt Electric arc furnace steelmaking furnace reduction ballast (stone): 23,666.5600 mt Waste ceramics: 5,590.1100 mt Water purification sludge: 63.1800 mt Metal smelting slag (including raw steelmaking slag): 233.5900 mt Waste foundry sand: 750.3900 mt	98,416.5396

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			Mineral fines: 316.2100 mt Wood chips: 26,881.6900 mt Other fuels: 8,561.5500 mt Rubber sheet: 270.5300 mt Waste man-made fiber: 82.5200 mt Scrap wood: 144.6000 mt Non-hazardous sludge: 212.2800 mt Waste plastic: 144.6000 mt Other electricity: 127,768,010.0000 kWh Motor gasoline: 6.8172 kL Diesel fuel: 94.6560 kL Raw materials - grinding aids: 434.1500 mt Bituminous coal: 127,996.4600 mt	
4.2	Emissions from Capital goods	Use the Average spend-based method	Optical instruments and clock products: 1,664,000 TWD Communications and computer services: 7,750,000 TWD Computer electronic communication equipment products: 7,066,661 TWD Mechanical equipment products: 264,814,499 TWD Construction project: 146,551,352 TWD	10,815.9510
4.3	Emissions from the disposal of solid and liquid waste	Use the waste-type-specific method	General garbage: 9.9600 mt Mercury lamp: 0.0560 mt Waste transport: 105.3360 tkm	3.4071

The British Standards Institution is independent to the above named client and has no financial interest in the above named client. This Opinion Statement has been prepared for the above named client only for the purposes of verifying its statements relating to its carbon emissions more particularly described in the scope. It was not prepared for any other purpose. The British Standards institution will not, in providing this Opinion Statement, accept or assume responsibility (legal or otherwise) or accept liability for or in connection with any other purpose for which it may be used or to any person by whom the Opinion Statement may be read. This Opinion Statement is prepared on the basis of review by The British Standards Institution of information presented to it by the above named client. The review does not extend beyond such information and is solely based on it. In performing such review, The British Standards Institution has assumed that all such information is complete and accurate. Any queries that may arise by virtue of this Opinion Statement or matters relating to it should be addressed to the above name client only.
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Statement No: GHGEV 809691

The direct GHG emissions and removals(cat.1) and indirect GHG emissions from imported energy emissions(cat.2) were verified in selected branches and representative offices, including but not limited to the following:

Location	Verification Information
Taiwan Cement Corporation Suao cement plant No. 46, Yongchang Rd. Suao Township Yilan County 270001 Taiwan 台灣水泥股份有限公司蘇澳廠 台灣 宜蘭縣 蘇澳鎮 永昌路 46 號 270001	The Greenhouse Gas Emissions with the Taiwan Cement Corporation Suao cement plant for the period from 2023-01-01 to 2023-12-31 was verified, including direct greenhouse gas emissions 1,120,125.1147 tonnes of CO_2 equivalent and indirect greenhouse gas emissions from imported energy 63,245.1650 tonnes of CO_2 equivalent.

Originally Issue: 2024-08-12 Latest Issue: 2024-08-12

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BSI GHG Verification Report

BSI 温室气体核查报告

Date 日期:
2024/04/01-DR
2024/04/15-S1
2024/05/06-S2

Prepared by 报告者:
Steven Jiang（Team Leader）

BSI reference BSI参考号:
TCC YI-0047945412-000

T Code:T03F

CSO: Sherry Li

Client Manager: Steven Jiang
Steven.jiang@bsigroup.com

Standard 标准	ISO 14064-1:2018
Organization Name 组织名称 Address 地址	TCC Yingde Cement Ltd 台泥(英德)水泥有限公司 Guanyinshan Avenue, Yingcheng Town, Yingde, Guangdong, 513099 China 中国广东省英德市英城镇观音山 邮政编码 513099

一、 **Verification Engagement 核查约定**

Verification Objectives 核查目标	To express an opinion on whether the GHG Statement which is historical in nature 就历史性的温室气体声明是否: • Is accurate, materially correct and is a fair representation of GHG data and information温室气体数据和信息的表述是否准确、在实质性上正确并公正表达 • Has been prepared in accordance with ISO 14064-1:2018, the criteria used by BSI to verify the GHG Organizational Statement 是否已按照 BSI 用于核查温室气体组织声明的标准 ISO 14064-1:2018 进行准备
Verification evidence gathering procedures 核查证据收集程序	• Evaluation of the monitoring and controls systems through interviewing employees' observation & inquiry 通过与员工面谈、观察和询问来评估监控系统 • Verification of the data through sampling, recalculation, retracing, cross checking and reconciliation 通过抽样、重新计算、回溯、交叉检查和核对来验证数据
Verification Standards 核查标准	The verification was carried out in accordance with ISO 14064-3: 2019 and ISO 14065:2020 核查按照 ISO 14064- 3:2019 和 ISO 14065:2020 进行

二、**Organizational GHG Statement** 组织温室气体声明

Organizational Boundary 组织边界设定	Operational Control 营运控制		
Locations included in the Organizational Boundary 组织边界中包含的位置	Guanyinshan Avenue, Yingcheng Town, Yingde, Guangdong, 513099 China 中国广东省英德市英城镇观音山 邮政编码 513099		
Scope of activities: 活动范围	The manufacture and activities of cement. 水泥的制造及相关活动。 The comprehensive utilization of domestic waste and solid waste. 生活垃圾和固体废物综合利用。		
Reporting Boundary 报告边界:		$CO_2(e)$ 吨二氧化碳当量	
		2016 Annual 2016 年度	2023 Annual 2023 年度

Direct GHG Emissions (Category 1) 直接温室气体排放 （类别 1）	Process emission source 制程排放源 - CO2 emissions from Clinker decomposition in rotary cement kiln. 回转水泥窑 熟料分解 Stationary emission source 固定排放源 -Rotary cement kiln/Emergency Generator/Canteen (Coal/Diesel oil/Alternative fuel).回转水泥窑/应急发电机/食堂(烟煤/柴油/替代燃料) Mobile emission source 移动排放源 -Official car/forklift (Gasoline/Diesel oil).公务车/叉车(汽油/柴油) -Mining machinery & truck(Diesel oil) 矿山机械和运矿卡车(柴油) -Welding machine(Acetylene) 焊接机(乙炔) Fugitive emission sources 逸散排放源 -Carbon dioxide fire extinguisher escapes.二氧化碳灭火器逸散 -Refrigerant escapes.制冷剂逸散 -SF6 escapes SF6 逸散 -Septic tank CH4 escapes.化粪池 CH4 逸散	**6860360.61**	**5060454.52**
Direct GHG Removals (Category 1) 直接清除温室气体 （类别 1）	NIL	**0**	**0**
Indirect GHG Emissions from imported energy (Category 2) Location based 输入能源产生的间接温室气体排放（类别 2） 基于位置	Purchased power 外购电力。	**253135.68**	**173192.17**
Indirect GHG Emissions from transportation (Category 3) 交通运输产生的间接温室气体排放（类别3）	Indirect emissions from the transportation of raw materials and finished products.原材料运输、成品运输产生的间接排放。	**147637.31**	**134742.98**

Indirect GHG Emissions from products used by organization (Category 4) 组织使用的产品产生的间接温室气体排放（类别4）	Indirect upstream emissions from raw materials, fuels and electricity used.使用的原材料、燃料和电力等的上游间接排放。	**205099.29**	**115056.53**
Indirect GHG Emissions associated with the use of products from the organization (Category 5) 与使用组织产品相关的间接温室气体排放（类别5）	Not quantified as the non-significant indirect emissions according to the significance criteria of indirect emission 按间接排放重要性准则确定为非重要间接排放，未进行量化	**Not quantified** **未量化**	**Not quantified** **未量化**
Indirect GHG Emissions from other sources (Category 6) 其他来源的间接温室气体排放（类别 6）	Not quantified as the non-significant indirect emissions according to the significance criteria of indirect emission 按间接排放重要性准则确定为非重要间接排放，未进行量化	**Not quantified** **未量化**	**Not quantified** **未量化**
Total Carbon Footprint **总的碳足迹**		**7466232.89**	**5483446.21**
Biogenic Emissions **生物质排放**		**0.00**	**187282.17**

三、Verification Findings 核查发现

3.1 Document review 文件审查

Verification Team 核查组

On behalf of BSI the verification was conducted by: Team Leader 核查组长：Steven Jiang 江约云 Verifier 核查员：Loren Long 龙忠仁 Trainee Verifier：实习核查员：No Observer 观察员：No	The principal staff involved on behalf of the organization were: Mr. Yanpei Zhang 张 艳培 先生

The findings during the documents review as below 文件评审发现如下：

No	Chapter 文件章节	Clause 条款	Description of Findings 发现描述
1	**报告书2.3**	6.1	NC-D-01：报告书：表 2.3《重大性间接温室气体排放评估结果》： 1）“下游产品运输及配送”得分为 15 分，后面有计算？

			2）“资本财”得分为 7，实际应为 8? 3）“营运产生之废弃物”得分为 12，实际为 8 4）“上游资产租赁和未规定于上述分类中，由服务使用产生排放”，得分均为 0，实际应为 8 5）“产品生命终期“得分为 9，实际应为 8
2	**报告书**	6.1	NC-D-02：对排放源中的识别如自来水、生产废水的排放没有明确
3	**报告书**	6	NC-D-03：缺少了 2016 年的盘查报告书
4	**报告书**	5.2.3	OFI-D-1：报告书 2.2.1：间接排放识别为“重大与非重大”，而“3.2 表分析的描述为”非显著“，考虑一致性

3.2 Stage 1 verification 一阶段核查

Verification Team 核查组

On behalf of BSI the verification was conducted by: Team Leader 核查组长：Steven Jiang 江约云 Verifier 核查员：John Chen 陈茹坤 Trainee Verifier：实习核查员：No Observer 观察员：No	The principal staff involved on behalf of the organization were: Mr. Yanpei Zhang 张 艳培 先生

The list of Stage 1 verification findings 一阶段核查具体发现如下：

Area 区域	**Clause** **条款**	Description of Findings 发现描述	Type of Findings **发现类型**
清册表 3	6.2.2	液化石油气（从摇篮到大门）的排放系数 0.453 吨 CO2e/吨，与排放源获取的数据不一致（换算不正确），此不符合 ISO14064-1:2018 标准 6.2.2 的要求	**NC-1-STJ-01/02**
清册表 5	6.2.2	2023 年盘查清册表 5 中废纺的排放因子未乘以 αj ——各种替代燃料或废弃物中非生物质碳的含量 2023 年盘查清册中烟煤的排放因子为 0.0017471 吨 CO2/吨，与《中国产品全生命周期温室气体排放系数库》中规定的 1.7417kgCO2/kg 不一致。 2023 年盘查清册中 20%氨水的排放因子为 0.00241 吨 CO2/吨，与《中国产品全生命周期温室气体排放系数库》中规定的 2.41kgCO2/kg 不一致。	**NC-1-JC-01/02**
清册表 5	6.2.2	2023 年的柴油发电机的排放系数遗漏填写 CH4 和 NxO 的 GWP 值	**NC-1-JC-01/02**

3.3 Stage 2 verification 二阶段核查

Verification Team 核查小组

On behalf of BSI the verification was conducted by: Team Leader 核查组长：Steven Jiang 江约云 Verifier 核查员：No Trainee Verifier：实习核查员：No Observer 观察员：No	The principal staff involved on behalf of the organization were: Mr. Yanpei Zhang 张 艳培 先生

Follow-up of Stage 1 verification findings as below一阶段核查发现跟进

NO. **编号**	Description of Findings 发现描述	Result of Follow-up 验证结果
1	液化石油气（从摇篮到大门）的排放系数 0.453吨CO2e/吨，与排放源获取的数据不一致（换算不正确），此不符合ISO14064-1:2018标准6.2.2的要求	已经验证正确
2	2023 年盘查清册表 5 中废纺的排放因子未乘以 α j ——各种替代燃料或废弃物中非生物质碳的含量 2023 年盘查清册中烟煤的排放因子为 0.0017471 吨 CO2/吨，与《中国产品全生命周期温室气体排放系数库》中规定的 1.7417kgCO2/kg 不一致。 2023年盘查清册中20%氨水的排放因子为0.00241吨CO2/吨，与《中国产品全生命周期温室气体排放系数库》中规定的2.41kgCO2/kg不一致。	已经验证正确
3	2023年的柴油发电机的排放系数遗漏填写CH4和NxO的GWP值	已经验证正确

The list of Stage 2 verification findings 二阶段核查具体发现如下：

NO. **编号**	**Clause** **条款**	Description of Findings 发现描述	Type of Findings **发现类型**
1	6.2.2	考虑优化 2016 年排放系数的单位描述方法，保持与 2023 年信息保持一致性	**OFI-S2-01**

The findings are summarized as below 核查发现汇总如下

Type of Findings 发现类型	DR 文审	Stage 1 一阶段	Stage 2 二阶段
Material misstatement 重大错报	0	0	0
Misstatement 错报	0	0	0
Nonconformity 不符合	3	3	0
Non Compliances 不合规	0	0	0
Improvements 改进事项	1	0	1

上述 DR、S1 问题已纠正，相关数据已调整并核实无误, 排放清册及报告已调整并更新 。

The above problems of DR, S1 have been corrected, the relevant data have been adjusted and verified, and the emission inventory and report have been adjusted and updated.

四、**Verification Opinion** 核查意见

The detail contents of verification opinion statement see the latest template of VOS.

核查声明的详细信息参见相应的 VOS 文件模板 PF1867 的最新版本。

五、**Confirmation of Report Content** 报告确认

The verification of the organisation was completed.

本次对贵司进行之查证已完成。

Please sign below confirming acceptance of the Verification reports contents

(30127583---DR 30127584--S1 30127585-S2):

请签署确认同意报告(30127583--DR 30127584--S1 30127585--S2)中的内容:

Signed for on behalf of BSI BSI 代表签署	Signed for on behalf of the client 客户代表签署
Steven Jiang 江约云	Mr. Yanpei Zhang 张 艳培 先生
2024/5/10	2024/5/10

Verification Opinion
核查声明

Organization 组织	TCC GuigangCement Co., Ltd. / Guigang Taini Dongyuan Environmental Protection Technology Co., Ltd. Huanglianxia, Huanglian Town, Qintang District, Guigang, Guangxi, 537123, China 台泥（贵港）水泥有限公司 / 贵港台泥东园环保科技有限公司 中国广西贵港市覃塘区黄练镇黄练峡 邮政编码：537123
Opinion No. 声明号	CFV 807208_22052024
GHG Statement 温室气体声明文件	台泥（贵港）水泥有限公司 / 贵港台泥东园环保科技有限公司 2023 年温室气体盘查报告书 台泥（贵港）水泥有限公司 2016 年温室气体盘查报告书
Level of Assurance 保证等级	Reasonable (Category 1,2) 合理（类别 1、2） Limited (Category 3,4,5,6) 有限（类别 3、4、5、6）
Materiality 实质性水平	5%
Reporting Period 报告期间	2016 年 1 月 1 日-2016 年 12 月 31 日 2023 年 1 月 1 日-2023 年 12 月 31 日
Criteria 核查准则	ISO 14064-1:2018
Carbon Footprint 碳足迹	2016 Annual Total 2016 年度总量 7,705,574.53 tonnes CO_2(e) 吨二氧化碳当量 2023 Annual Total 2023 年度总量 2,599,920.40 tonnes CO_2(e) 吨二氧化碳当量
Conclusion 结论	Verified as Satisfactory 无保留核查意见 Based on the processes and procedures conducted it is concluded that the GHG statement 根据所实施的过程和程序，温室气体声明的结论是： • is materially correct and is a fair representation of GHG data and information. 温室气体数据及信息是实质性正确并公正表达 • has been prepared in accordance with ISO 14064-1:2018 and it's principles. 是按 ISO 14064-1:2018 要求及其原则编制
Lead Verifier 核查组长	Bell Deng 邓中华
Independent Reviewer 独立评审员	Shirley Qian 钱韶丽
Signed on behalf of BSI **BSI** 代表签署	Michael Lam - Managing Director Assurance, APAC
Issue Date 签署日期	22/05/2024

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Appendix A Additional Information about the GHG Statement
附录 A 温室气体声明的补充信息

Organizational Boundary 组织边界设定	Operational Control 营运控制		
Locations included in the Organizational Boundary 组织边界中包含的位置	Huanglianxia, Huanglian Town, Qintang District, Guigang, Guangxi, 537123, China 中国广西贵港市覃塘区黄练镇黄练峡 邮政编码：537123		
Scope of activities: 活动范围	The manufacture and activities of cement. 水泥的制造及相关活动。 The collection, storage and disposal of solid wastes. 固体废物收集、贮存及处置。		
TCC GuigangCement Co., Ltd. 台泥（贵港）水泥有限公司 Reporting Boundary 报告边界		CO_2(e) 吨二氧化碳当量	
		2016 Annual 2016 年度	2023 Annual 2023 年度
Direct GHG Emissions (Category 1) 直接温室气体排放（类别 1）	Cement clinker process emissions, bituminous coal, diesel, alternative fuel combustion, septic tank escape, fire extinguishers, refrigerant equipment and other direct emissions. 水泥熟料制程排放、烟煤、柴油、替代燃料燃烧、化粪池逸散、灭火器、冷媒设备等直接排放。	7,077,225.71	2,363,545.91
Direct GHG Removals (Category 1) 直接清除温室气体（类别 1）	NIL	0	0
Indirect GHG Emissions from imported energy (Category 2) Location based 输入能源产生的间接温室气体排放（类别 2） 基于位置	Purchased power 外购电力	264,552.84	99,870.04
Indirect GHG Emissions from transportation (Category 3) 交通运输产生的间接温室气体排放（类别3）	Indirect emissions from the transportation of raw materials and finished products. 原材料运输、成品运输等产生的间接排放。	169,541.48	69,845.68
Indirect GHG Emissions from products used by organization (Category 4) 组织使用的产品产生的间接温室气体排放（类别4）	Indirect upstream emissions from used raw materials, fuels, etc. 使用的原材料、燃料等的上游间接排放。	194,254.50	63,830.02
Indirect GHG Emissions associated with the use of products from the organization (Category 5) 与使用组织产品相关的间接温室气体排放（类别5）	Not quantified as the non-significant indirect emissions according to the significance criteria of indirect emission 按间接排放重要性准则确定为非重要间接排放，未进行量化	Not quantified 未量化	Not quantified 未量化
Indirect GHG Emissions from other sources (Category 6) 其他来源的间接温室气体排放（类别 6）	Not quantified as the non-significant indirect emissions according to the significance criteria of indirect emission 按间接排放重要性准则确定为非重要间接排放，未进行量化	Not quantified 未量化	Not quantified 未量化
Total Carbon Footprint 总的碳足迹		7,705,574.53	2,597,091.65
Biogenic Emissions 生物质排放		0	82,317.66

Guigang Taini Dongyuan Environmental Protection Technology Co., Ltd. 贵港台泥东园环保科技有限公司 Reporting Boundary 报告边界		$CO_2(e)$ 吨二氧化碳当量 2023 Annual 2023 年度
Direct GHG Emissions (Category 1) 直接温室气体排放（类别 1）	Gasoline, diesel, septic tank escape, fire extinguisher, refrigerant equipment and other direct emissions. 汽油、柴油、化粪池逸散、灭火器、冷媒设备等直接排放。	116.96
Direct GHG Removals (Category 1) 直接清除温室气体（类别 1）	NIL	0
Indirect GHG Emissions from imported energy (Category 2) Location based 输入能源产生的间接温室气体排放（类别 2）基于位置	Purchased power 外购电力	1,428.91
Indirect GHG Emissions from transportation (Category 3) 交通运输产生的间接温室气体排放（类别3）	Indirect emissions from transportation of raw materials, downstream transportation, business travel, etc. 原材料运输、下游运输、商务差旅等产生的间接排放。	1,259.87
Indirect GHG Emissions from products used by organization (Category 4) 组织使用的产品产生的间接温室气体排放（类别4）	Indirect upstream emissions from used raw materials, fuels, etc. 使用的原材料、燃料等的上游间接排放。	23.01
Indirect GHG Emissions associated with the use of products from the organization (Category 5) 与使用组织产品相关的间接温室气体排放（类别5）	Not quantified as the non-significant indirect emissions according to the significance criteria of indirect emission 按间接排放重要性准则确定为非重要间接排放，未进行量化	Not quantified 未量化
Indirect GHG Emissions from other sources (Category 6) 其他来源的间接温室气体排放（类别 6）	Not quantified as the non-significant indirect emissions according to the significance criteria of indirect emission 按间接排放重要性准则确定为非重要间接排放，未进行量化	Not quantified 未量化
Total Carbon Footprint 总的碳足迹		2,828.75

Appendix B Additional information about the Assurance Engagement
附录 B 有关鉴证业务的补充信息

Verification Objectives 核查目标	To express an opinion on whether the GHG Statement which is historical in nature就历史性的温室气体声明是否： • Is accurate, materially correct and is a fair representation of GHG data and information 温室气体数据和信息的表述是否准确、在实质性上正确并公正表达 • Has been prepared in accordance with ISO 14064-1:2018, the criteria used by BSI to verify the GHG Organizational Statement 是否已按照 BSI 用于核查温室气体组织声明的标准 ISO 14064-1:2018 进行准备
Verification evidence gathering procedures 核查证据收集程序	• Evaluation of the monitoring and controls systems through interviewing employees observation & inquiry 通过与员工面谈、观察和询问来评估监控系统 • Verification of the data through sampling, recalculation, retracing, cross checking and reconciliation 通过抽样、重新计算、回溯、交叉检查和核对来验证数据
Verification Standards 核查标准	The verification was carried out in accordance with ISO 14064-3:2019 and ISO 14065:2020 核查按照 ISO 14064-3:2019 和 ISO 14065:2020 进行
Note: TCC GuigangCement Co., Ltd. / Guigang Taini Dongyuan Environmental Protection Technology Co., Ltd. is responsible for the preparation and fair presentation of the GHG statement and report in accordance with the agreed criteria. BSI is responsible for expressing an opinion on the GHG statement based on the verification. 注：台泥（贵港）水泥有限公司及贵港台泥东园环保科技有限公司负责按照商定的标准编制和公正表达温室气体声明和报告。BSI负责在核查的基础上对温室气体声明发表意见。	

Verification Opinion
核查声明

Organization 组织	TCC Shaoguan Cement Co., Ltd. Shijiao Village, Wushi Town, Qujiang District, Shaoguan, Guangdong, 512131, China 台泥（韶关）水泥有限公司 中国广东省韶关市曲江区乌石镇石角村 邮政编码：512131
Opinion No. 声明号	CFV 807386_21052024
GHG Statement 温室气体声明文件	台泥（韶关）水泥有限公司 2022 年温室气体盘查报告 2023 年温室气体盘查报告
Level of Assurance 保证等级	Reasonable (Category 1,2) 合理（类别 1、2） Limited (Category 3,4,5,6) 有限（类别 3、4、5、6）
Materiality 实质性水平	5%
Reporting Period 报告期间	2022 年 1 月 1 日-2022 年 12 月 31 日 2023 年 1 月 1 日-2023 年 12 月 31 日
Criteria 核查准则	ISO 14064-1:2018
Carbon Footprint 碳足迹	2022 Annual Total 2022 年度总量 1,287,785.21 tonnes CO_2(e) 吨二氧化碳当量 2023 Annual Total 2023 年度总量 1,336,416.59 tonnes CO_2(e) 吨二氧化碳当量
Conclusion 结论	Verified as Satisfactory 无保留核查意见 Based on the processes and procedures conducted it is concluded that the GHG statement 根据所实施的过程和程序，温室气体声明的结论是： • is materially correct and is a fair representation of GHG data and information. 温室气体数据及信息是实质性正确并公正表达 • has been prepared in accordance with ISO 14064-1:2018 and it's principles. 是按 ISO 14064-1:2018 要求及其原则编制
Lead Verifier 核查组长	Jacques Liu 刘振球
Independent Reviewer 独立评审员	Shirley Qian 钱韶丽
Signed on behalf of BSI BSI 代表签署	Michael Lam - Managing Director Assurance, APAC
Issue Date 签署日期	21/05/2024

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注：英标管理体系认证（北京）有限公司独立于台泥（韶关）水泥有限公司，在台泥（韶关）水泥有限公司中没有经济利益。本第三方核查意见是为台泥（韶关）水泥有限公司准备的，仅用于核查其关于其温室气体排放的声明，该声明在上述范围中有详细描述。它不是为任何其他目的而准备的。在作出本声明时，英标管理体系认证（北京）有限公司已假定台泥（韶关）水泥有限公司向其提供的所有信息都是真实、准确和完整的。英标管理体系认证（北京）有限公司不对任何依赖本声明的第三方承担任何责任。
英标管理体系认证（北京）有限公司 地址：北京市建国门外大街甲 24 号东海中心 2008 室 邮编：100004

Appendix A Additional Information about the GHG Statement
附录 A 温室气体声明的补充信息

Organizational Boundary 组织边界设定	Operational Control 营运控制		
Locations included in the Organizational Boundary 组织边界中包含的位置	Shijiao Village, Wushi Town, Qujiang District, Shaoguan, Guangdong, 512131, China 中国广东省韶关市曲江区乌石镇石角村 邮政编码：512131		
Scope of activities: 活动范围	The manufacture and activities of cement. 水泥的制造及相关活动。		
Reporting Boundary 报告边界：		$CO_2(e)$ 吨二氧化碳当量	
		2022 Annual 2022 年度	2023 Annual 2023 年度
Direct GHG Emissions (Category 1) 直接温室气体排放（类别 1）	Cement clinker process emissions, bituminous coal, diesel, alternative fuel combustion, septic tank escape, fire extinguishers, refrigerant equipment and other direct emissions. 水泥熟料制程排放，烟煤、柴油、替代燃料燃烧，化粪池逸散，灭火器、冷媒设备等直接排放。	1,209,697.67	1,247,111.61
Direct GHG Removals (Category 1) 直接清除温室气体（类别 1）	NIL	0	0
Indirect GHG Emissions from imported energy (Category 2) Location based 输入能源产生的间接温室气体排放（类别 2） 基于位置	Purchased power 外购电力	31,630.59	36,142.10
Indirect GHG Emissions from transportation (Category 3) 交通运输产生的间接温室气体排放（类别3）	Indirect emissions from the transportation of raw materials and finished products. 原材料运输、成品运输等产生的间接排放。	23,075.95	30,189.30
Indirect GHG Emissions from products used by organization (Category 4) 组织使用的产品产生的间接温室气体排放（类别4）	Indirect upstream emissions from used raw materials, fuels, etc. 使用的原材料、燃料等的上游间接排放。	23,381.00	22,973.58
Indirect GHG Emissions associated with the use of products from the organization (Category 5) 与使用组织产品相关的间接温室气体排放（类别5）	Not quantified as the non-significant indirect emissions according to the significance criteria of indirect emission 按间接排放重要性准则确定为非重要间接排放，未进行量化	Not quantified 未量化	Not quantified 未量化
Indirect GHG Emissions from other sources (Category 6) 其他来源的间接温室气体排放（类别 6）	Not quantified as the non-significant indirect emissions according to the significance criteria of indirect emission 按间接排放重要性准则确定为非重要间接排放，未进行量化	Not quantified 未量化	Not quantified 未量化
Total Carbon Footprint 总的碳足迹		1,287,785.21	1,336,416.59
Biogenic Emissions 生物质排放		7,744.64	47,470.45

Appendix B Additional information about the Assurance Engagement
附录 **B** 有关鉴证业务的补充信息

Verification Objectives 核查目标	To express an opinion on whether the GHG Statement which is historical in nature 就历史性的温室气体声明是否： • Is accurate, materially correct and is a fair representation of GHG data and information 温室气体数据和信息的表述是否准确、在实质性上正确并公正表达 • Has been prepared in accordance with ISO 14064-1:2018, the criteria used by BSI to verify the GHG Organizational Statement 是否已按照 BSI 用于核查温室气体组织声明的标准 ISO 14064-1:2018 进行准备
Verification evidence gathering procedures 核查证据收集程序	• Evaluation of the monitoring and controls systems through interviewing employees observation & inquiry 通过与员工面谈、观察和询问来评估监控系统 • Verification of the data through sampling, recalculation, retracing, cross checking and reconciliation 通过抽样、重新计算、回溯、交叉检查和核对来验证数据
Verification Standards 核查标准	The verification was carried out in accordance with ISO 14064-3:2019 and ISO 14065:2020 核查按照 ISO 14064-3:2019 和 ISO 14065:2020 进行
Note: TCC Shaoguan Cement Co., Ltd. is responsible for the preparation and fair presentation of the GHG statement and report in accordance with the agreed criteria. BSI is responsible for expressing an opinion on the GHG statement based on the verification. 注：台泥（韶关）水泥有限公司负责按照商定的标准编制和公正表达温室气体声明和报告。BSI负责在核查的基础上对温室气体声明发表意见。	

Verification Opinion
核查声明

Organization 组织	Jurong TCC Cement Co., Ltd. Qiaotou Town, Jurong, Zhenjiang, Jiangsu Province, 212413, China 句容台泥水泥有限公司 中国江苏省镇江市句容桥头镇 邮政编码：212413
Opinion No. 声明号	CFV 806561_20052024
GHG Statement 温室气体声明文件	句容台泥水泥有限公司 2016 年度的温室气体排放报告、 2023 年度的温室气体排放报告
Level of Assurance 保证等级	Reasonable (Category 1,2) 合理（类别 1、2）　Limited (Category 3,4,5,6) 有限（类别 3、4、5、6）
Materiality 实质性水平	5%
Reporting Period 报告期间	2016 年 1 月 1 日-2016 年 12 月 31 日 2023 年 1 月 1 日-2023 年 12 月 31 日
Criteria 核查准则	ISO 14064-1:2018
Carbon Footprint 碳足迹	2016 Annual Total 2016 年度总量 3,225,729.56 tonnes CO_2(e) 吨二氧化碳当量 2023 Annual Total 2023 年度总量 3,310,034.19 tonnes CO_2(e) 吨二氧化碳当量
Conclusion 结论	Verified as Satisfactory 无保留核查意见 Based on the processes and procedures conducted it is concluded that the GHG statement 根据所实施的过程和程序，温室气体声明的结论是： • is materially correct and is a fair representation of GHG data and information. 温室气体数据及信息是实质性正确并公正表达 • has been prepared in accordance with ISO 14064-1:2018 and it's principles. 是按 ISO 14064-1:2018 要求及其原则编制
Lead Verifier 核查组长	Aaron Wang 王群
Independent Reviewer 独立评审员	Shirley Qian 钱韶丽
Signed on behalf of BSI BSI 代表签署	Michael Lam - Managing Director Assurance, APAC

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Issue Date 签署日期	20/05/2024

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英标管理体系认证（北京）有限公司　地址：北京市建国门外大街甲 24 号东海中心 2008 室　邮编：100004

Appendix A Additional Information about the GHG Statement
附录 A 温室气体声明的补充信息

Organizational Boundary 组织边界设定	Operational Control 营运控制		
Locations included in the Organizational Boundary 组织边界中包含的位置	Qiaotou Town, Jurong, Zhenjiang, Jiangsu Province, 212413, China 中国江苏省镇江市句容桥头镇 邮政编码：212413		
Scope of activities: 活动范围	The manufacture of cement and portland cement clinkers. 水泥及硅酸盐水泥熟料的生产相关活动。		
Reporting Boundary 报告边界：		CO_2(e) 吨二氧化碳当量	
		2016 Annual 2016 年度	2023 Annual 2023 年度
Direct GHG Emissions (Category 1) 直接温室气体排放（类别 1）	Cement clinker process emissions, bituminous coal, diesel, alternative fuel combustion, septic tank escape, fire extinguishers, refrigerant equipment and other direct emissions. 水泥熟料制程排放，烟煤、柴油、替代燃料燃烧，化粪池逸散，灭火器、冷媒设备等直接排放。	2,917,446.80	3,055,960.43
Direct GHG Removals (Category 1) 直接清除温室气体（类别 1）	NIL	0	0
Indirect GHG Emissions from imported energy (Category 2) Location based 输入能源产生的间接温室气体排放（类别 2） 基于位置	Purchased power 外购电力。	205,679.93	156,570.84
Indirect GHG Emissions from transportation (Category 3) 交通运输产生的间接温室气体排放（类别3）	Indirect emissions from the transportation of raw materials and finished products.原材料运输、成品运输等产生的间接排放。	24,519.73	16,726.86
Indirect GHG Emissions from products used by organization (Category 4) 组织使用的产品产生的间接温室气体排放（类别4）	Indirect upstream emissions from used raw materials, fuels, etc.使用的原材料、燃料等的上游间接排放。	78,083.10	80,776.06
Indirect GHG Emissions associated with the use of products from the organization (Category 5) 与使用组织产品相关的间接温室气体排放（类别5）	Not quantified as the non-significant indirect emissions according to the significance criteria of indirect emission 按间接排放重要性准则确定为非重要间接排放，未进行量化	Not quantified 未量化	Not quantified 未量化
Indirect GHG Emissions from other sources (Category 6) 其他来源的间接温室气体排放（类别 6）	Not quantified as the non-significant indirect emissions according to the significance criteria of indirect emission 按间接排放重要性准则确定为非重要间接排放，未进行量化	Not quantified 未量化	Not quantified 未量化
Total Carbon Footprint 总的碳足迹		3,225,729.56	3,310,034.19
Biogenic Emissions 生物质排放		0	69,111.21

Appendix B Additional information about the Assurance Engagement
附录 **B** 有关鉴证业务的补充信息

Verification Objectives 核查目标	To express an opinion on whether the GHG Statement which is historical in nature 就历史性的温室气体声明是否： • Is accurate, materially correct and is a fair representation of GHG data and information温室气体数据和信息的表述是否准确、在实质性上正确并公正表达 • Has been prepared in accordance with ISO 14064-1:2018, the criteria used by BSI to verify the GHG Organizational Statement 是否已按照 BSI 用于核查温室气体组织声明的标准 ISO 14064-1:2018 进行准备
Verification evidence gathering procedures 核查证据收集程序	• Evaluation of the monitoring and controls systems through interviewing employees observation & inquiry 通过与员工面谈、观察和询问来评估监控系统 • Verification of the data through sampling, recalculation, retracing, cross checking and reconciliation 通过抽样、重新计算、回溯、交叉检查和核对来验证数据
Verification Standards 核查标准	The verification was carried out in accordance with ISO 14064-3:2019 and ISO 14065:2020 核查按照 ISO 14064-3:2019 和 ISO 14065:2020 进行
Note: Jurong TCC Cement Co., Ltd. is responsible for the preparation and fair presentation of the GHG statement and report in accordance with the agreed criteria. BSI is responsible for expressing an opinion on the GHG statement based on the verification. 注：句容台泥水泥有限公司负责按照商定的标准编制和公正表达温室气体声明和报告。BSI 负责在核查的基础上对温室气体声明发表意见。	

Verification Opinion
核查声明

Organization 组织	TCC Chongqing Cement Co., Ltd. Jianliang Village, Yanjing Town, Hechuan District, Chongqing, 401521, China 台泥（重庆）水泥有限公司 中国重庆市合川区盐井镇建梁村 邮政编码：401521
Opinion No. 声明号	CFV 806554_16052024
GHG Statement 温室气体声明文件	台泥（重庆）水泥有限公司 2016 年温室气体盘查报告 2023 年温室气体盘查报告
Level of Assurance 保证等级	Reasonable (Category 1,2) 合理（类别 1、2） Limited (Category 3,4,5,6) 有限（类别 3、4、5、6）
Materiality 实质性水平	5%
Reporting Period 报告期间	2016 年 1 月 1 日-2016 年 12 月 31 日 2023 年 1 月 1 日-2023 年 12 月 31 日
Criteria 核查准则	ISO 14064-1:2018
Carbon Footprint 碳足迹	2016 Annual Total 2016 年度总量 3,106,880.47 tonnes CO_2(e) 吨二氧化碳当量 2023 Annual Total 2023 年度总量 2,108,183.23 tonnes CO_2(e) 吨二氧化碳当量
Conclusion 结论	Verified as Satisfactory 无保留核查意见 Based on the processes and procedures conducted it is concluded that the GHG statement 根据所实施的过程和程序，温室气体声明的结论是： • is materially correct and is a fair representation of GHG data and information. 温室气体数据及信息是实质性正确并公正表达 • has been prepared in accordance with ISO 14064-1:2018 and it's principles. 是按 ISO 14064-1:2018 要求及其原则编制
Lead Verifier 核查组长	Jacques Liu 刘振球
Independent Reviewer 独立评审员	Shirley Qian 钱韶丽
Signed on behalf of BSI BSI 代表签署	Michael Lam - Managing Director Assurance, APAC
Issue Date 签署日期	16/05/2024

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注：英标管理体系认证（北京）有限公司独立于台泥（重庆）水泥有限公司，在台泥（重庆）水泥有限公司中没有经济利益。本第三方核查意见是为台泥（重庆）水泥有限公司准备的，仅用于核查其关于其温室气体排放的声明，该声明在上述范围中有详细描述。它不是为任何其他目的而准备的。在作出本声明时，英标管理体系认证（北京）有限公司已假定台泥（重庆）水泥有限公司向其提供的所有信息都是真实、准确和完整的。英标管理体系认证（北京）有限公司不对任何依赖本声明的第三方承担任何责任。

Appendix A Additional Information about the GHG Statement
附录 A 温室气体声明的补充信息

Organizational Boundary 组织边界设定	Operational Control 营运控制		
Locations included in the Organizational Boundary 组织边界中包含的位置	Jianliang Village, Yanjing Town, Hechuan District, Chongqing, 401521, China 中国重庆市合川区盐井镇建梁村 邮政编码：401521		
Scope of activities: 活动范围	The manufacture and activities of cement. 水泥的制造及相关活动。		
Reporting Boundary 报告边界：		$CO_2(e)$ 吨二氧化碳当量	
		2016 Annual 2016 年度	2023 Annual 2023 年度
Direct GHG Emissions (Category 1) 直接温室气体排放（类别 1）	Cement clinker process emissions, bituminous coal, diesel, alternative fuel combustion, septic tank escape, fire extinguishers, refrigerant equipment and other direct emissions. 水泥熟料制程排放，烟煤、柴油、替代燃料燃烧，化粪池逸散，灭火器、冷媒设备等直接排放。	2,854,599.41	1,785,895.46
Direct GHG Removals (Category 1) 直接清除温室气体（类别 1）	NIL	0	0
Indirect GHG Emissions from imported energy (Category 2) Location based 输入能源产生的间接温室气体排放（类别 2） 基于位置	Purchased power 外购电力。	114,250.06	65,382.37
Indirect GHG Emissions from transportation (Category 3) 交通运输产生的间接温室气体排放（类别3）	Indirect emissions from the transportation of raw materials and finished products.原材料运输、成品运输等产生的间接排放。	83,107.69	104,814.40
Indirect GHG Emissions from products used by organization (Category 4) 组织使用的产品产生的间接温室气体排放（类别4）	Indirect upstream emissions from used raw materials, fuels, etc.使用的原材料、燃料等的上游间接排放。	54,923.31	152,091.00
Indirect GHG Emissions associated with the use of products from the organization (Category 5) 与使用组织产品相关的间接温室气体排放（类别5）	Not quantified as the non-significant indirect emissions according to the significance criteria of indirect emission 按间接排放重要性准则确定为非重要间接排放，未进行量化	Not quantified 未量化	Not quantified 未量化
Indirect GHG Emissions from other sources (Category 6) 其他来源的间接温室气体排放（类别 6）	Not quantified as the non-significant indirect emissions according to the significance criteria of indirect emission 按间接排放重要性准则确定为非重要间接排放，未进行量化	Not quantified 未量化	Not quantified 未量化
Total Carbon Footprint 总的碳足迹		3,106,880.47	2,108,183.23
Biogenic Emissions 生物质排放		0	18876.57

Appendix B Additional information about the Assurance Engagement
附录 **B** 有关鉴证业务的补充信息

Verification Objectives 核查目标	To express an opinion on whether the GHG Statement which is historical in nature 就历史性的温室气体声明是否： • Is accurate, materially correct and is a fair representation of GHG data and information温室气体数据和信息的表述是否准确、在实质性上正确并公正表达 • Has been prepared in accordance with ISO 14064-1:2018, the criteria used by BSI to verify the GHG Organizational Statement 是否已按照 BSI 用于核查温室气体组织声明的标准 ISO 14064-1:2018 进行准备
Verification evidence gathering procedures. 核查证据收集程序	• Evaluation of the monitoring and controls systems through interviewing employees observation & inquiry 通过与员工面谈、观察和询问来评估监控系统 • Verification of the data through sampling, recalculation, retracing, cross checking and reconciliation 通过抽样、重新计算、回溯、交叉检查和核对来验证数据
Verification Standards 核查标准	The verification was carried out in accordance with ISO 14064-3:2019 and ISO 14065:2020 核查按照 ISO 14064-3:2019 和 ISO 14065:2020 进行
Note: TCC Chongqing Cement Co., Ltd. is responsible for the preparation and fair presentation of the GHG statement and report in accordance with the agreed criteria. BSI is responsible for expressing an opinion on the GHG statement based on the verification. 注：台泥（重庆）水泥有限公司负责按照商定的标准编制和公正表达温室气体声明和报告。BSI负责在核查的基础上对温室气体声明发表意见。	

Verification Opinion
核查声明

Organization 组织	GUANGAN CHANGXING CEMENT CO., LTD. / Guangan TCC Jiuyuan Environmental Technology Co., Ltd. 广安昌兴水泥有限公司 / 广安台泥久远环保科技有限公司 No. 9, Sandunkan Road, Qianfeng District, Guang'an, Sichuan, 638019, China 中国四川省广安市前锋区三墩坎路 9 号 邮政编码：638019
Opinion No. 声明号	CFV 807229_22052024
GHG Statement 温室气体声明文件	广安昌兴水泥有限公司/广安台泥久远环保科技有限公司 2016 年温室气体盘查报告 2023 年温室气体盘查报告
Level of Assurance 保证等级	Reasonable (Category 1,2) 合理（类别 1、2） Limited (Category 3,4,5,6) 有限（类别 3、4、5、6）
Materiality 实质性水平	5%
Reporting Period 报告期间	2016 年 1 月 1 日-2016 年 12 月 31 日 2023 年 1 月 1 日-2023 年 12 月 31 日
Criteria 核查准则	ISO 14064-1:2018
Carbon Footprint 碳足迹	2016 Annual Total 2016 年度总量 1,418,766.70 tonnes CO_2(e) 吨二氧化碳当量 2023 Annual Total 2023 年度总量 1,169,136.98 tonnes CO_2(e) 吨二氧化碳当量
Conclusion 结论	Verified as Satisfactory 无保留核查意见 Based on the processes and procedures conducted it is concluded that the GHG statement 根据所实施的过程和程序，温室气体声明的结论是： • is materially correct and is a fair representation of GHG data and information. 温室气体数据及信息是实质性正确并公正表达 • has been prepared in accordance with ISO 14064-1:2018 and it's principles. 是按 ISO 14064-1:2018 要求及其原则编制
Lead Verifier 核查组长	Loren Long 龙忠仁
Independent Reviewer 独立评审员	Shirley Qian 钱韶丽
Signed on behalf of BSI **BSI** 代表签署	Michael Lam - Managing Director Assurance, APAC
Issue Date 签署日期	22/05/2024

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注：英标管理体系认证（北京）有限公司独立于广安昌兴水泥有限公司/广安台泥久远环保科技有限公司，在广安昌兴水泥有限公司/广安台泥久远环保科技有限公司中没有经济利益。本第三方核查意见是为广安昌兴水泥有限公司/广安台泥久远环保科技有限公司准备的，仅用于核查其关于其温室气体排放的声明，该声明在上述范围中有详细描述。它不是为任何其他目的而准备的。在作出本声明时，英标管理体系认证（北京）有限公司已假定广安昌兴水泥有限公司/广安台泥久远环保科技有限公司向其提供的所有信息都是真实、准确和完整的。英标管理体系认证（北京）有限公司不对任何依赖本声明的第三方承担任何责任。
英标管理体系认证（北京）有限公司　地址：北京市建国门外大街甲 24 号东海中心 2008 室　邮编：100004

Appendix A Additional Information about the GHG Statement
附录 A 温室气体声明的补充信息

Organizational Boundary 组织边界设定	Operational Control 营运控制		
Locations included in the Organizational Boundary 组织边界中包含的位置	No. 9, Sandunkan Road, Qianfeng District, Guang'an, Sichuan, 638019, China 中国四川省广安市前锋区三墩坎路 9 号 邮政编码：638019		
Scope of activities: 活动范围	The manufacture of cement and portland cement clinker. 水泥及硅酸盐水泥熟料的生产。		
Reporting Boundary 报告边界：		CO_2(e) 吨二氧化碳当量	
		2016 Annual 2016 年度	2023 Annual 2023 年度
Direct GHG Emissions (Category 1) 直接温室气体排放（类别 1）	Process emission source 制程排放源 - CO_2 emissions from Clinker decomposition in rotary cement kiln. 回转水泥窑 熟料分解 Stationary emission source 固定排放源 -Rotary cement kiln/Emergency Generator/Canteen (Coal/Diesel oil/Alternative fuel). 回转水泥窑/应急发电机/食堂（烟煤/柴油/替代燃料） Mobile emission source 移动排放源 -Official car/forklift (Gasoline/Diesel oil). 公务车/叉车（汽油/柴油） -Mining machinery & truck(Diesel oil) 矿山机械和运矿卡车（柴油） -Welding machine(Acetylene) 焊接机（乙炔） Fugitive emission sources 逸散排放源 -Carbon dioxide fire extinguisher escapes. 二氧化碳灭火器逸散 -Refrigerant escapes. 制冷剂逸散 -SF_6 escapes SF_6 逸散 -Septic tank CH_4 escapes. 化粪池 CH_4 逸散	1,345,485.72	1,117,772.44
Direct GHG Removals (Category 1) 直接清除温室气体（类别 1）	NIL	0	0
Indirect GHG Emissions from imported energy (Category 2) Location based 输入能源产生的间接温室气体排放（类别 2）基于位置	Purchased power 外购电力	27,830.10	10,962.40
Indirect GHG Emissions from transportation (Category 3) 交通运输产生的间接温室气体排放（类别3）	Indirect emissions from the transportation of raw materials and finished products. 原材料运输、成品运输等产生的间接排放。	11,721.74	9,814.67
Indirect GHG Emissions from products used by organization (Category 4) 组织使用的产品产生的间接温室气体排放（类别4）	Indirect upstream emissions from used raw materials, fuels, etc. 使用的原材料、燃料等的上游间接排放。	33,729.13	30,587.46

Indirect GHG Emissions associated with the use of products from the organization (Category 5) 与使用组织产品相关的间接温室气体排放（类别5）	Not quantified as the non-significant indirect emissions according to the significance criteria of indirect emission 按间接排放重要性准则确定为非重要间接排放，未进行量化	Not quantified 未量化	Not quantified 未量化
Indirect GHG Emissions from other sources (Category 6) 其他来源的间接温室气体排放（类别 6）	Not quantified as the non-significant indirect emissions according to the significance criteria of indirect emission 按间接排放重要性准则确定为非重要间接排放，未进行量化	Not quantified 未量化	Not quantified 未量化
Total Carbon Footprint 总的碳足迹		1,418,766.70	1,169,136.98
Biogenic Emissions 生物质排放		0	33.48

Appendix B Additional information about the Assurance Engagement
附录 B　有关鉴证业务的补充信息

Verification Objectives 核查目标	To express an opinion on whether the GHG Statement which is historical in nature 就历史性的温室气体声明是否： • Is accurate, materially correct and is a fair representation of GHG data and information 温室气体数据和信息的表述是否准确、在实质性上正确并公正表达 • Has been prepared in accordance with ISO 14064-1:2018, the criteria used by BSI to verify the GHG Organizational Statement 是否已按照 BSI 用于核查温室气体组织声明的标准 ISO 14064-1:2018 进行准备
Verification evidence gathering procedures 核查证据收集程序	• Evaluation of the monitoring and controls systems through interviewing employees observation & inquiry 通过与员工面谈、观察和询问来评估监控系统 • Verification of the data through sampling, recalculation, retracing, cross checking and reconciliation 通过抽样、重新计算、回溯、交叉检查和核对来验证数据
Verification Standards 核查标准	The verification was carried out in accordance with ISO 14064-3:2019 and ISO 14065:2020 核查按照 ISO 14064-3:2019 和 ISO 14065:2020 进行
Note: GUANGAN CHANGXING CEMENT CO., LTD./Guangan TCC Jiuyuan Environmental Technology Co., Ltd. is responsible for the preparation and fair presentation of the GHG statement and report in accordance with the agreed criteria. BSI is responsible for expressing an opinion on the GHG statement based on the verification. 注：广安昌兴水泥有限公司/广安台泥久远环保科技有限公司负责按照商定的标准编制和公正表达温室气体声明和报告。BSI负责在核查的基础上对温室气体声明发表意见。	

Verification Opinion
核查声明

Organization 组织	TCC Huaying Cement Company Limited. 华蓥台泥水泥有限公司 Huilongqiao Village, Xikou Town, Huaying, Sichuan, 638600, China 中国四川省华蓥市溪口镇回龙桥村 邮政编码：638600
Opinion No. 声明号	CFV 806780_22052024
GHG Statement 温室气体声明文件	华蓥台泥水泥有限公司 2016 年温室气体盘查报告 2023 年温室气体盘查报告
Level of Assurance 保证等级	Reasonable (Category 1,2)　　Limited (Category 3,4,5,6) 合理（类别 1、2）　　有限（类别 3、4、5、6）
Materiality 实质性水平	5%
Reporting Period 报告期间	2016 年 1 月 1 日-2016 年 12 月 31 日 2023 年 1 月 1 日-2023 年 12 月 31 日
Criteria 核查准则	ISO 14064-1:2018
Carbon Footprint 碳足迹	2016 Annual Total 2016 年度总量 1,226,635.40 tonnes CO_2(e) 吨二氧化碳当量 2023 Annual Total 2023 年度总量　130,843.51 tonnes CO_2(e) 吨二氧化碳当量
Conclusion 结论	Verified as Satisfactory 无保留核查意见 Based on the processes and procedures conducted it is concluded that the GHG statement 根据所实施的过程和程序，温室气体声明的结论是： • is materially correct and is a fair representation of GHG data and information. 温室气体数据及信息是实质性正确并公正表达 • has been prepared in accordance with ISO 14064-1:2018 and it's principles. 是按 ISO 14064-1:2018 要求及其原则编制
Lead Verifier 核查组长	Loren Long 龙忠仁
Independent Reviewer 独立评审员	Shirley Qian 钱韶丽
Signed on behalf of BSI BSI 代表签署	Michael Lam - Managing Director Assurance, APAC
Issue Date 签署日期	22/05/2024

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注：英标管理体系认证（北京）有限公司独立于华蓥台泥水泥有限公司，在华蓥台泥水泥有限公司中没有经济利益。本第三方核查意见是为华蓥台泥水泥有限公司准备的，仅用于核查其关于其温室气体排放的声明，该声明在上述范围中有详细描述。它不是为任何其他目的而准备的。在作出本声明时，英标管理体系认证（北京）有限公司已假定华蓥台泥水泥有限公司向其提供的所有信息都是真实、准确和完整的。英标管理体系认证（北京）有限公司不对任何依赖本声明的第三方承担任何责任。
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Appendix A Additional Information about the GHG Statement
附录 **A** 温室气体声明的补充信息

Organizational Boundary 组织边界设定	Operational Control 营运控制		
Locations included in the Organizational Boundary 组织边界中包含的位置	Huilongqiao Village, Xikou Town, Huaying, Sichuan, 638600, China 中国四川省华蓥市溪口镇回龙桥村 邮政编码：638600		
Scope of activities: 活动范围	The manufacture of cement and portland cement clinker. 水泥及硅酸盐水泥熟料的生产。		
Reporting Boundary 报告边界：		CO_2(e) 吨二氧化碳当量 2016 Annual 2016 年度	 2023 Annual 2023 年度
Direct GHG Emissions (Category 1) 直接温室气体排放（类别 1）	Process emission source 制程排放源 - CO_2 emissions from Clinker decomposition in rotary cement kiln. 回转水泥窑 熟料分解 Stationary emission source 固定排放源 -Rotary cement kiln/Emergency Generator/Canteen (Coal/Diesel oil/Alternative fuel). 回转水泥窑/应急发电机/食堂（烟煤/柴油/替代燃料） Mobile emission source 移动排放源 -Official car/forklift (Gasoline/Diesel oil). 公务车/叉车（汽油/柴油） -Mining machinery & truck (Diesel oil) 矿山机械和运矿卡车（柴油） -Welding machine (Acetylene) 焊接机（乙炔） Fugitive emission sources 逸散排放源 -Carbon dioxide fire extinguisher escapes. 二氧化碳灭火器逸散 -Refrigerant escapes. 制冷剂逸散 -SF6 escapes SF6 逸散 -Septic tank CH4 escapes. 化粪池 CH4 逸散	1,150,312.53	112,871.77
Direct GHG Removals (Category 1) 直接清除温室气体（类别 1）	NIL	0	0
Indirect GHG Emissions from imported energy (Category 2) Location based 输入能源产生的间接温室气体排放（类别 2）基于位置	Purchased power 外购电力。	28,536.69	1,810.96
Indirect GHG Emissions from transportation (Category 3) 交通运输产生的间接温室气体排放（类别3）	Indirect emissions from the transportation of raw materials and finished products.原材料运输、成品运输等产生的间接排放。	12,679.82	1,306.84
Indirect GHG Emissions from products used by organization (Category 4) 组织使用的产品产生的间接温室气体排放（类别4）	Indirect upstream emissions from used raw materials, fuels, etc.使用的原材料、燃料等的上游间接排放。	35,106.36	14,853.94

Indirect GHG Emissions associated with the use of products from the organization (Category 5) 与使用组织产品相关的间接温室气体排放（类别5）	Not quantified as the non-significant indirect emissions according to the significance criteria of indirect emission 按间接排放重要性准则确定为非重要间接排放，未进行量化	Not quantified 未量化	Not quantified 未量化
Indirect GHG Emissions from other sources (Category 6) 其他来源的间接温室气体排放（类别 6）	Not quantified as the non-significant indirect emissions according to the significance criteria of indirect emission 按间接排放重要性准则确定为非重要间接排放，未进行量化	Not quantified 未量化	Not quantified 未量化
Total Carbon Footprint 总的碳足迹		1,226,635.40	130,843.51
Biogenic Emissions 生物质排放		0	2261.89

Appendix B Additional information about the Assurance Engagement
附录 **B** 有关签证业务的补充信息

Verification Objectives 核查目标	To express an opinion on whether the GHG Statement which is historical in nature 就历史性的温室气体声明是否： • Is accurate, materially correct and is a fair representation of GHG data and information温室气体数据和信息的表述是否准确、在实质性上正确并公正表达 • Has been prepared in accordance with ISO 14064-1:2018, the criteria used by BSI to verify the GHG Organizational Statement 是否已按照 BSI 用于核查温室气体组织声明的标准 ISO 14064-1:2018 进行准备
Verification evidence gathering procedures 核查证据收集程序	• Evaluation of the monitoring and controls systems through interviewing employees observation & inquiry 通过与员工面谈、观察和询问来评估监控系统 • Verification of the data through sampling, recalculation, retracing, cross checking and reconciliation 通过抽样、重新计算、回溯、交叉检查和核对来验证数据
Verification Standards 核查标准	The verification was carried out in accordance with ISO 14064-3:2019 and ISO 14065:2020 核查按照 ISO 14064-3:2019 和 ISO 14065:2020 进行
Note: TCC Huaying Cement Company Limited. is responsible for the preparation and fair presentation of the GHG statement and report in accordance with the agreed criteria. BSI is responsible for expressing an opinion on the GHG statement based on the verification. 注：华蓥台泥水泥有限公司负责按照商定的标准编制和公正表达温室气体声明和报告。BSI负责在核查的基础上对温室气体声明发表意见。	

Verification Opinion
核查声明

Organization 组织	Luzhou Saide Cement Co., Ltd. Yishe, Fulong Village, Zhendong Township, Xuyong County, Luzhou, Sichuan, 646400, China 泸州赛德水泥有限公司 中国四川省泸州市叙永县震东乡伏龙村一社 邮政编码：646400
Opinion No. 声明号	CFV 807385_28052024
GHG Statement 温室气体声明文件	泸州赛德水泥有限公司 2016 年温室气体盘查报告 2023 年温室气体盘查报告
Level of Assurance 保证等级	Reasonable (Category 1,2) 合理（类别 1、2） Limited (Category 3,4,5,6) 有限（类别 3、4、5、6）
Materiality 实质性水平	5%
Reporting Period 报告期间	2016 年 1 月 1 日-2016 年 12 月 31 日 2023 年 1 月 1 日-2023 年 12 月 31 日
Criteria 核查准则	ISO 14064-1:2018
Carbon Footprint 碳足迹	2016 Annual Total 2016 年度总量 1,495,025.68 tonnes CO_2(e) 吨二氧化碳当量 2023 Annual Total 2023 年度总量 1,046,177.41 tonnes CO_2(e) 吨二氧化碳当量
Conclusion 结论	Verified as Satisfactory 无保留核查意见 Based on the processes and procedures conducted it is concluded that the GHG statement 根据所实施的过程和程序，温室气体声明的结论是： is materially correct and is a fair representation of GHG data and information. 温室气体数据及信息是实质性正确并公正表达 has been prepared in accordance with ISO 14064-1:2018 and it's principles. 是按 ISO 14064-1:2018 要求及其原则编制
Lead Verifier 核查组长	Steven Jiang 江约云
Independent Reviewer 独立评审员	Shirley Qian 钱韶丽
Signed on behalf of BSI BSI 代表签署	Michael Lam - Managing Director Assurance, APAC
Issue Date 签署日期	28/05/2024

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注：英标管理体系认证（北京）有限公司独立于泸州赛德水泥有限公司，在泸州赛德水泥有限公司中没有经济利益。本第三方核查意见是为泸州赛德水泥有限公司准备的，仅用于核查其关于其温室气体排放的声明，该声明在上述范围中有详细描述。它不是为任何其他目的而准备的。在做出本声明时，英标管理体系认证（北京）有限公司已假定泸州赛德水泥有限公司向其提供的所有信息都是真实、准确和完整的。英标管理体系认证（北京）有限公司不对任何依赖本声明的第三方承担任何责任。
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Appendix A Additional Information about the GHG Statement
附录 A 温室气体声明的补充信息

Organizational Boundary 组织边界设定	Operational Control 营运控制		
Locations included in the Organizational Boundary 组织边界中包含的位置	Yishe, Fulong Village, Zhendong Township, Xuyong County, Luzhou, Sichuan, 646400, China 中国四川省泸州市叙永县震东乡伏龙村一社 邮政编码：646400		
Scope of activities: 活动范围	The manufacture and activities of cement. 水泥的制造及相关活动。		
Reporting Boundary 报告边界：		CO_2(e) 吨二氧化碳当量 2016 Annual 2016 年度	CO_2(e) 吨二氧化碳当量 2023 Annual 2023 年度
Direct GHG Emissions (Category 1) 直接温室气体排放（类别 1）	Cement clinker process emissions, bituminous coal, diesel, alternative fuel combustion, septic tank escape, fire extinguishers, refrigerant equipment and other direct emissions. 水泥熟料制程排放，烟煤、柴油、替代燃料燃烧，化粪池逸散，灭火器、冷媒设备等直接排放。	1,423,978.96	927,407.96
Direct GHG Removals (Category 1) 直接清除温室气体（类别 1）	NIL	0	0
Indirect GHG Emissions from imported energy (Category 2) Location based 输入能源产生的间接温室气体排放（类别 2） 基于位置	Purchased power 外购电力	21,667.14	9,103.51
Indirect GHG Emissions from transportation (Category 3) 交通运输产生的间接温室气体排放（类别3）	Indirect emissions from the transportation of raw materials and finished products. 原材料运输、成品运输等产生的间接排放。	11,795.50	11,321.43
Indirect GHG Emissions from products used by organization (Category 4) 组织使用的产品产生的间接温室气体排放（类别4）	Indirect upstream emissions from used raw materials, fuels, etc. 使用的原材料、燃料等的上游间接排放。	37,584.08	98,344.51
Indirect GHG Emissions associated with the use of products from the organization (Category 5) 与使用组织产品相关的间接温室气体排放（类别5）	Not quantified as the non-significant indirect emissions according to the significance criteria of indirect emission 按间接排放重要性准则确定为非重要间接排放，未进行量化	Not quantified 未量化	Not quantified 未量化
Indirect GHG Emissions from other sources (Category 6) 其他来源的间接温室气体排放（类别 6）	Not quantified as the non-significant indirect emissions according to the significance criteria of indirect emission 按间接排放重要性准则确定为非重要间接排放，未进行量化	Not quantified 未量化	Not quantified 未量化
Total Carbon Footprint 总的碳足迹		1,495,025.68	1,046,177.41
Biogenic Emissions 生物质排放		0.00	27,362.57

Appendix B Additional information about the Assurance Engagement
附录 **B** 有关鉴证业务的补充信息

Verification Objectives 核查目标	To express an opinion on whether the GHG Statement which is historical in nature 就历史性的温室气体声明是否： • Is accurate, materially correct and is a fair representation of GHG data and information 温室气体数据和信息的表述是否准确、在实质性上正确并公正表达 • Has been prepared in accordance with ISO 14064-1:2018, the criteria used by BSI to verify the GHG Organizational Statement 是否已按照 BSI 用于核查温室气体组织声明的标准 ISO 14064-1:2018 进行准备
Verification evidence gathering procedures 核查证据收集程序	• Evaluation of the monitoring and controls systems through interviewing employees observation & inquiry 通过与员工面谈、观察和询问来评估监控系统 • Verification of the data through sampling, recalculation, retracing, cross checking and reconciliation 通过抽样、重新计算、回溯、交叉检查和核对来验证数据
Verification Standards 核查标准	The verification was carried out in accordance with ISO 14064-3:2019 and ISO 14065:2020 核查按照 ISO 14064-3:2019 和 ISO 14065:2020 进行
Note: Luzhou Saide Cement Co., Ltd. is responsible for the preparation and fair presentation of the GHG statement and report in accordance with the agreed criteria. BSI is responsible for expressing an opinion on the GHG statement based on the verification. 注：泸州赛德水泥有限公司负责按照商定的标准编制和公正表达温室气体声明和报告。BSI负责在核查的基础上对温室气体声明发表意见。	

Verification Opinion
核查声明

Organization 组织	Guizhou Kaili Ruian Building Materials Co., Ltd. / Kaili Taini Ecotechnology Co., Ltd. Xintai Village, Ximahe Street, Kaili, Qiandongnan Miao and Dong Autonomous Prefecture, Guizhou, 556099, China 贵州凯里瑞安建材有限公司/凯里台泥环保科技有限公司 中国贵州省黔东南苗族侗族自治州凯里市洗马河街道新苔村 邮政编码：556099
Opinion No. 声明号	CFV 807237_29052024
GHG Statement 温室气体声明文件	贵州凯里瑞安建材有限公司/凯里台泥环保科技有限公司 2023 年温室气体盘查报告书 2016 年温室气体盘查报告书
Level of Assurance 保证等级	Reasonable (Category 1,2)　　Limited (Category 3,4,5,6) 合理（类别 1、2）　　有限（类别 3、4、5、6）
Materiality 实质性水平	5%
Reporting Period 报告期间	2016 年 1 月 1 日-2016 年 12 月 31 日 2023 年 1 月 1 日-2023 年 12 月 31 日
Criteria 核查准则	ISO 14064-1:2018
Carbon Footprint 碳足迹	2016 Annual Total 2016 年度总量 1,848,663.68 tonnes CO_2(e) 吨二氧化碳当量 2023 Annual Total 2023 年度总量 364,161.19 tonnes CO_2(e) 吨二氧化碳当量
Conclusion 结论	Verified as Satisfactory 无保留核查意见 Based on the processes and procedures conducted it is concluded that the GHG statement 根据所实施的过程和程序，温室气体声明的结论是： • is materially correct and is a fair representation of GHG data and information. 温室气体数据及信息是实质性正确并公正表达 • has been prepared in accordance with ISO 14064-1:2018 and it's principles. 是按 ISO 14064-1:2018 要求及其原则编制
Lead Verifier 核查组长	Bell Deng 邓中华
Independent Reviewer 独立评审员	Shirley Qian 钱韶丽
Signed on behalf of BSI **BSI** 代表签署	Michael Lam - Managing Director Assurance, APAC
Issue Date 签署日期	29/05/2024

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注：英标管理体系认证（北京）有限公司独立于贵州凯里瑞安建材有限公司及凯里台泥环保科技有限公司，在上述公司没有经济利益，本第三方核查意见是为贵州凯里瑞安建材有限公司及凯里台泥环保科技有限公司准备的，仅用于核查其关于其温室气体排放的声明，该声明在上述范围中有详细描述。它不是为任何其他目的而准备的。在作出本声明时，英标管理体系认证（北京）有限公司已假定上述公司向其提供的所有信息都是真实、准确和完整的。英标管理体系认证（北京）有限公司不对任何依赖本声明的第三方承担任何责任。

Appendix A Additional Information about the GHG Statement
附录 A 温室气体声明的补充信息

Organizational Boundary 组织边界设定	Operational Control 营运控制		
Locations included in the Organizational Boundary 组织边界中包含的位置	Xintai Village, Ximahe Street, Kaili City, Qiandongnan Miao and Dong Autonomous Prefecture, Guizhou, 556099, China 中国贵州省黔东南苗族侗族自治州凯里市洗马河街道新苔村 邮政编码：556099		
Scope of activities: 活动范围	The manufacture and activities of cement. 水泥的制造及相关活动。 The collection, storage, disposal and comprehensive utilization of solid wastes. 固体废物收集、贮存、处置及综合利用。		
Reporting Boundary 报告边界		$CO_2(e)$ 吨二氧化碳当量	
		2016 Annual 2016 年度	2023 Annual 2023 年度
Direct GHG Emissions (Category 1) 直接温室气体排放（类别 1）	Cement clinker process emissions, bituminous coal, diesel, alternative fuel combustion, septic tank escape, fire extinguishers, refrigerant equipment and other direct emissions. 水泥熟料制程排放、烟煤、柴油、替代燃料燃烧、化粪池逸散、灭火器、冷媒设备等直接排放。	1,726,630.76	334,615.03
Direct GHG Removals (Category 1) 直接清除温室气体（类别 1）	NIL	0	0
Indirect GHG Emissions from imported energy (Category 2) Location based 输入能源产生的间接温室气体排放（类别 2） 基于位置	Purchased power 外购电力	68,915.73	18,926.94
Indirect GHG Emissions from transportation (Category 3) 交通运输产生的间接温室气体排放（类别3）	Indirect emissions from the transportation of raw materials and finished products. 原材料运输、成品运输等产生的间接排放。	9,437.94	3,409.07
Indirect GHG Emissions from products used by organization (Category 4) 组织使用的产品产生的间接温室气体排放（类别4）	Indirect upstream emissions from used raw materials, fuels, etc. 使用的原材料、燃料等的上游间接排放。	43,679.25	7,210.15
Indirect GHG Emissions associated with the use of products from the organization (Category 5) 与使用组织产品相关的间接温室气体排放（类别5）	Not quantified as the non-significant indirect emissions according to the significance criteria of indirect emission 按间接排放重要性准则确定为非重要间接排放，未进行量化	Not quantified 未量化	Not quantified 未量化
Indirect GHG Emissions from other sources (Category 6) 其他来源的间接温室气体排放（类别 6）	Not quantified as the non-significant indirect emissions according to the significance criteria of indirect emission 按间接排放重要性准则确定为非重要间接排放，未进行量化	Not quantified 未量化	Not quantified 未量化
Total Carbon Footprint 总的碳足迹		1,848,663.68	364,161.19
Biogenic Emissions 生物质排放		0	18720.97

Appendix B Additional information about the Assurance Engagement
附录 **B** 有关鉴证业务的补充信息

Verification Objectives 核查目标	To express an opinion on whether the GHG Statement which is historical in nature 就历史性的温室气体声明是否： • Is accurate, materially correct and is a fair representation of GHG data and information 温室气体数据和信息的表述是否准确、在实质性上正确并公正表达 • Has been prepared in accordance with ISO 14064-1:2018, the criteria used by BSI to verify the GHG Organizational Statement 是否已按照 BSI 用于核查温室气体组织声明的标准 ISO 14064-1:2018 进行准备
Verification evidence gathering procedures 核查证据收集程序	• Evaluation of the monitoring and controls systems through interviewing employees observation & inquiry 通过与员工面谈、观察和询问来评估监控系统 • Verification of the data through sampling, recalculation, retracing, cross checking and reconciliation 通过抽样、重新计算、回溯、交叉检查和核对来验证数据
Verification Standards 核查标准	The verification was carried out in accordance with ISO 14064-3:2019 and ISO 14065:2020 核查按照 ISO 14064-3:2019 和 ISO 14065:2020 进行
Note: Guizhou Kaili Ruian Building Materials Co., Ltd.& Kaili Taini Ecotechnology Co., Ltd. is responsible for the preparation and fair presentation of the GHG statement and report in accordance with the agreed criteria. BSI is responsible for expressing an opinion on the GHG statement based on the verification. 注：贵州凯里瑞安建材有限公司及凯里台泥环保科技有限公司负责按照商定的标准编制和公正表达温室气体声明和报告。BSI负责在核查的基础上对温室气体声明发表意见。	

Verification Opinion
核查声明

Organization 组织	TCC Anshun Cement Co., Ltd. Matian Village, Chengguan Town, Pingba District, Anshun, Guizhou, 561100, China 台泥（安顺）水泥有限公司 中国贵州省安顺市平坝区城关镇马田村 邮政编码：561100
Opinion No. 声明号	CFV 806562_03062024
GHG Statement 温室气体声明文件	台泥（安顺）水泥有限公司 2016 年温室气体盘查报告 2023 年温室气体盘查报告
Level of Assurance 保证等级	Reasonable (Category 1,2) 合理（类别 1、2） Limited (Category 3,4,5,6) 有限（类别 3、4、5、6）
Materiality 实质性水平	5%
Reporting Period 报告期间	2016 年 1 月 1 日-2016 年 12 月 31 日 2023 年 1 月 1 日-2023 年 12 月 31 日
Criteria 核查准则	ISO 14064-1:2018
Carbon Footprint 碳足迹	2016 Annual Total 2016 年度总量 2,764,124.55 tonnes CO_2(e) 吨二氧化碳当量 2023 Annual Total 2023 年度总量 985,660.58 tonnes CO_2(e) 吨二氧化碳当量
Conclusion 结论	Verified as Satisfactory 无保留核查意见 Based on the processes and procedures conducted it is concluded that the GHG statement 根据所实施的过程和程序，温室气体声明的结论是： • is materially correct and is a fair representation of GHG data and information. 温室气体数据及信息是实质性正确并公正表达 • has been prepared in accordance with ISO 14064-1:2018 and it's principles. 是按 ISO 14064-1:2018 要求及其原则编制
Lead Verifier 核查组长	Jacques Liu 刘振球
Independent Reviewer 独立评审员	Shirley Qian 钱韶丽
Signed on behalf of BSI **BSI** 代表签署	Michael Lam - Managing Director Assurance, APAC
Issue Date 签署日期	03/06/2024

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注：英标管理体系认证（北京）有限公司独立于台泥（安顺）水泥有限公司，在台泥（安顺）水泥有限公司中没有经济利益。本第三方核查意见是为台泥（安顺）水泥有限公司准备的，仅用于核查其关于其温室气体排放的声明，该声明在上述范围中有详细描述。它不是为任何其他目的而准备的。在作出本声明时，英标管理体系认证（北京）有限公司已假定台泥（安顺）水泥有限公司向其提供的所有信息都是真实、准确和完整的。英标管理体系认证（北京）有限公司不对任何依赖本声明的第三方承担任何责任。
英标管理体系认证（北京）有限公司 地址：北京市建国门外大街甲 24 号东海中心 2008 室 邮编：100004

Appendix A Additional Information about the GHG Statement
附录 A 温室气体声明的补充信息

Organizational Boundary 组织边界设定	Operational Control 营运控制		
Locations included in the Organizational Boundary 组织边界中包含的位置	Matian Village, Chengguan Town, Pingba District, Anshun, Guizhou, 561100, China 中国贵州省安顺市平坝区城关镇马田村 邮政编码：561100		
Scope of activities: 活动范围	The manufacture and activities of cement. 水泥的制造及相关活动。		
Reporting Boundary 报告边界：		CO_2(e) 吨二氧化碳当量	
		2016 Annual 2016 年度	2023 Annual 2023 年度
Direct GHG Emissions (Category 1) 直接温室气体排放（类别 1）	Cement clinker process emissions, bituminous coal, diesel, alternative fuel combustion, septic tank escape, fire extinguishers, refrigerant equipment and other direct emissions. 水泥熟料制程排放，烟煤、柴油、替代燃料燃烧，化粪池逸散，灭火器、冷媒设备等直接排放。	2510446.08	860267.82
Direct GHG Removals (Category 1) 直接清除温室气体（类别 1）	NIL	0	0
Indirect GHG Emissions from imported energy (Category 2) Location based 输入能源产生的间接温室气体排放（类别 2）基于位置	Purchased power 外购电力	111845.75	40071.17
Indirect GHG Emissions from transportation (Category 3) 交通运输产生的间接温室气体排放（类别3）	Indirect emissions from the transportation of raw materials and finished products. 原材料运输、成品运输等产生的间接排放。	10962.06	5975.54
Indirect GHG Emissions from products used by organization (Category 4) 组织使用的产品产生的间接温室气体排放（类别4）	Indirect upstream emissions from used raw materials, fuels, etc. 使用的原材料、燃料等的上游间接排放。	130870.66	79346.05
Indirect GHG Emissions associated with the use of products from the organization (Category 5) 与使用组织产品相关的间接温室气体排放（类别5）	Not quantified as the non-significant indirect emissions according to the significance criteria of indirect emission 按间接排放重要性准则确定为非重要间接排放，未进行量化	Not quantified 未量化	Not quantified 未量化
Indirect GHG Emissions from other sources (Category 6) 其他来源的间接温室气体排放（类别 6）	Not quantified as the non-significant indirect emissions according to the significance criteria of indirect emission 按间接排放重要性准则确定为非重要间接排放，未进行量化	Not quantified 未量化	Not quantified 未量化
Total Carbon Footprint 总的碳足迹		2764124.55	985660.58
Biogenic Emissions 生物质排放		7,890.04	49,077.20

Appendix B Additional information about the Assurance Engagement
附录 **B** 有关鉴证业务的补充信息

Verification Objectives 核查目标	To express an opinion on whether the GHG Statement which is historical in nature 就历史性的温室气体声明是否： • Is accurate, materially correct and is a fair representation of GHG data and information 温室气体数据和信息的表述是否准确、在实质性上正确并公正表达 • Has been prepared in accordance with ISO 14064-1:2018, the criteria used by BSI to verify the GHG Organizational Statement 是否已按照 BSI 用于核查温室气体组织声明的标准 ISO 14064-1:2018 进行准备
Verification evidence gathering procedures 核查证据收集程序	• Evaluation of the monitoring and controls systems through interviewing employees observation & inquiry 通过与员工面谈、观察和询问来评估监控系统 • Verification of the data through sampling, recalculation, retracing, cross checking and reconciliation 通过抽样、重新计算、回溯、交叉检查和核对来验证数据
Verification Standards 核查标准	The verification was carried out in accordance with ISO 14064-3:2019 and ISO 14065:2020 核查按照 ISO 14064-3:2019 和 ISO 14065:2020 进行
Note: TCC Anshun Cement Co., Ltd. is responsible for the preparation and fair presentation of the GHG statement and report in accordance with the agreed criteria. BSI is responsible for expressing an opinion on the GHG statement based on the verification. 注：台泥（安顺）水泥有限公司负责按照商定的标准编制和公正表达温室气体声明和报告。BSI负责在核查的基础上对温室气体声明发表意见。	

Verification Opinion
核查声明

Organization 组织	TCC Guizhou Guangan Cement Co., Ltd. Shibanjing Village, Dingyun Township, Guanling Buyi and Miao Autonomous County, Anshun, Guizhou, 561300, China 贵州港安水泥有限公司 中国贵州省安顺市关岭布依族苗族自治县顶云乡石板井村 邮政编码：561300
Opinion No. 声明号	CFV 806771_03062024
GHG Statement 温室气体声明文件	贵州港安水泥有限公司 2016 年温室气体盘查报告 2023 年温室气体盘查报告
Level of Assurance 保证等级	Reasonable (Category 1,2) 合理（类别 1、2） Limited (Category 3,4,5,6) 有限（类别 3、4、5、6）
Materiality 实质性水平	5%
Reporting Period 报告期间	2016 年 1 月 1 日-2016 年 12 月 31 日 2023 年 1 月 1 日-2023 年 12 月 31 日
Criteria 核查准则	ISO 14064-1:2018
Carbon Footprint 碳足迹	2016 Annual Total 2016 年度总量 751,448.10 tonnes CO_2(e) 吨二氧化碳当量 2023 Annual Total 2023 年度总量 233,082.90 tonnes CO_2(e) 吨二氧化碳当量

Conclusion
结论

Verified as Satisfactory
无保留核查意见
Based on the processes and procedures conducted it is concluded that the GHG statement 根据所实施的过程和程序，温室气体声明的结论是：

- is materially correct and is a fair representation of GHG data and information.
  温室气体数据及信息是实质性正确并公正表达
- has been prepared in accordance with ISO 14064-1:2018 and it's principles.
  是按 ISO 14064-1:2018 要求及其原则编制

Lead Verifier 核查组长	Jacques Liu 刘振球
Independent Reviewer 独立评审员	Shirley Qian 钱韶丽
Signed on behalf of BSI BSI 代表签署	Michael Lam - Managing Director Assurance, APAC

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Issue Date
签署日期

03/06/2024

注：英标管理体系认证（北京）有限公司独立于贵州港安水泥有限公司，在贵州港安水泥有限公司中没有经济利益。本第三方核查意见是为贵州港安水泥有限公司准备的，仅用于核查其关于其温室气体排放的声明，该声明在上述范围中有详细描述。它不是为任何其他目的而准备的。在作出本声明时，英标管理体系认证（北京）有限公司已假定贵州港安水泥有限公司向其提供的所有信息都是真实、准确和完整的。英标管理体系认证（北京）有限公司不对任何依赖本声明的第三方承担任何责任。

Appendix A Additional Information about the GHG Statement
附录 A 温室气体声明的补充信息

Organizational Boundary 组织边界设定	Operational Control 营运控制		
Locations included in the Organizational Boundary 组织边界中包含的位置	Shibanjing Village, Dingyun Township, Guanling Buyi and Miao Autonomous County, Anshun, Guizhou, 561300, China 中国贵州省安顺市关岭布依族苗族自治县顶云乡石板井村 邮政编码：561300		
Scope of activities: 活动范围	The manufacture and activities of cement. 水泥的制造及相关活动。		
Reporting Boundary 报告边界：		CO_2(e) 吨二氧化碳当量 2016 Annual 2016 年度	 2023 Annual 2023 年度
Direct GHG Emissions (Category 1) 直接温室气体排放（类别 1）	Cement clinker process emissions, bituminous coal, diesel, alternative fuel combustion, septic tank escape, fire extinguishers, refrigerant equipment and other direct emissions. 水泥熟料制程排放，烟煤、柴油、替代燃料燃烧，化粪池逸散，灭火器、冷媒设备等直接排放。	694,544.57	184,539.93
Direct GHG Removals (Category 1) 直接清除温室气体（类别 1）	NIL	0	0
Indirect GHG Emissions from imported energy (Category 2) Location based 输入能源产生的间接温室气体排放（类别 2） 基于位置	Purchased power 外购电力	34,097.89	11,484.69
Indirect GHG Emissions from transportation (Category 3) 交通运输产生的间接温室气体排放（类别3）	Indirect emissions from the transportation of raw materials and finished products. 原材料运输、成品运输等产生的间接排放。	3,611.16	1,388.86
Indirect GHG Emissions from products used by organization (Category 4) 组织使用的产品产生的间接温室气体排放（类别4）	Indirect upstream emissions from used raw materials, fuels, etc. 使用的原材料、燃料等的上游间接排放。	19,194.48	35,669.42
Indirect GHG Emissions associated with the use of products from the organization (Category 5) 与使用组织产品相关的间接温室气体排放（类别5）	Not quantified as the non-significant indirect emissions according to the significance criteria of indirect emission 按间接排放重要性准则确定为非重要间接排放，未进行量化	Not quantified 未量化	Not quantified 未量化
Indirect GHG Emissions from other sources (Category 6) 其他来源的间接温室气体排放（类别 6）	Not quantified as the non-significant indirect emissions according to the significance criteria of indirect emission 按间接排放重要性准则确定为非重要间接排放，未进行量化	Not quantified 未量化	Not quantified 未量化
Total Carbon Footprint 总的碳足迹		751,448.10	233,082.90
Biogenic Emissions 生物质排放		0	9,559.16

Appendix B Additional information about the Assurance Engagement
附录 B 有关鉴证业务的补充信息

Verification Objectives 核查目标	To express an opinion on whether the GHG Statement which is historical in nature 就历史性的温室气体声明是否： • Is accurate, materially correct and is a fair representation of GHG data and information 温室气体数据和信息的表述是否准确、在实质性上正确并公正表达 • Has been prepared in accordance with ISO 14064-1:2018, the criteria used by BSI to verify the GHG Organizational Statement 是否已按照 BSI 用于核查温室气体组织声明的标准 ISO 14064-1:2018 进行准备
Verification evidence gathering procedures 核查证据收集程序	• Evaluation of the monitoring and controls systems through interviewing employees observation & inquiry 通过与员工面谈、观察和询问来评估监控系统 • Verification of the data through sampling, recalculation, retracing, cross checking and reconciliation 通过抽样、重新计算、回溯、交叉检查和核对来验证数据
Verification Standards 核查标准	The verification was carried out in accordance with ISO 14064-3:2019 and ISO 14065:2020 核查按照 ISO 14064-3:2019 和 ISO 14065:2020 进行
Note: TCC Guizhou Guanga Cement Co., Ltd. is responsible for the preparation and fair presentation of the GHG statement and report in accordance with the agreed criteria. BSI is responsible for expressing an opinion on the GHG statement based on the verification. 注：贵州港安水泥有限公司负责按照商定的标准编制和公正表达温室气体声明和报告。BSI负责在核查的基础上对温室气体声明发表意见。	

Verification Opinion
核查声明

Organization 组织	TCC Jingzhou Cement Co., Ltd. 靖州台泥水泥有限公司 Pukou Township, Jingzhou County, Huaihua, Hunan, 418400, China 中国湖南省怀化市靖州县铺口乡 邮政编码：418400
Opinion No. 声明号	CFV 806560_30052024
GHG Statement 温室气体声明文件	靖州台泥水泥有限公司 2016 年温室气体盘查报告 2023 年温室气体盘查报告
Level of Assurance 保证等级	Reasonable (Category 1,2)　　Limited (Category 3,4,5,6) 合理（类别 1、2）　　有限（类别 3、4、5、6）
Materiality 实质性水平	5%
Reporting Period 报告期间	2016 年 1 月 1 日-2016 年 12 月 31 日 2023 年 1 月 1 日-2023 年 12 月 31 日
Criteria 核查准则	ISO 14064-1:2018
Carbon Footprint 碳足迹	2016 Annual Total 2016 年度总量 841,576.84 tonnes CO_2(e) 吨二氧化碳当量 2023 Annual Total 2023 年度总量 384,643.93 tonnes CO_2(e) 吨二氧化碳当量
Conclusion 结论	Verified as Satisfactory 无保留核查意见 Based on the processes and procedures conducted it is concluded that the GHG statement 根据所实施的过程和程序，温室气体声明的结论是： • is materially correct and is a fair representation of GHG data and information. 温室气体数据及信息是实质性正确并公正表达 • has been prepared in accordance with ISO 14064-1:2018 and it's principles. 是按 ISO 14064-1:2018 要求及其原则编制
Lead Verifier 核查组长	Steven Jiang 江约云
Independent Reviewer 独立评审员	Shirley Qian 钱韶丽
Signed on behalf of BSI **BSI** 代表签署	Michael Lam - Managing Director Assurance, APAC
Issue Date 签署日期	30/05/2024

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英标管理体系认证（北京）有限公司　地址：北京市建国门外大街甲 24 号东海中心 2008 室　邮编：100004

Appendix A Additional Information about the GHG Statement
附录 A 温室气体声明的补充信息

Organizational Boundary 组织边界设定	Operational Control 营运控制		
Locations included in the Organizational Boundary 组织边界中包含的位置	Pukou Township, Jingzhou County, Huaihua, Hunan, 418400, China 中国湖南省怀化市靖州县铺口乡 邮政编码：418400		
Scope of activities: 活动范围	The manufacture and activities of cement. 水泥的制造及相关活动。		
Reporting Boundary 报告边界：		CO_2(e) 吨二氧化碳当量 2016 Annual 2016 年度	 2023 Annual 2023 年度
Direct GHG Emissions (Category 1) 直接温室气体排放（类别 1）	Cement clinker process emissions, bituminous coal, diesel, alternative fuel combustion, septic tank escape, fire extinguishers, refrigerant equipment and other direct emissions. 水泥熟料制程排放，烟煤、柴油、替代燃料燃烧，化粪池逸散，灭火器、冷媒设备等直接排放。	733,444.48	354,529.24
Direct GHG Removals (Category 1) 直接清除温室气体（类别 1）	NIL	0	0
Indirect GHG Emissions from imported energy (Category 2) Location based 输入能源产生的间接温室气体排放（类别 2） 基于位置	Purchased power 外购电力	33,586.56	17,098.92
Indirect GHG Emissions from transportation (Category 3) 交通运输产生的间接温室气体排放（类别3）	Indirect emissions from the transportation of raw materials and finished products.原材料运输、成品运输等产生的间接排放。	10,335.38	4,753.55
Indirect GHG Emissions from products used by organization (Category 4) 组织使用的产品产生的间接温室气体排放（类别4）	Indirect upstream emissions from used raw materials, fuels, etc.使用的原材料、燃料等的上游间接排放。	64,210.42	8,262.22
Indirect GHG Emissions associated with the use of products from the organization (Category 5) 与使用组织产品相关的间接温室气体排放（类别5）	Not quantified as the non-significant indirect emissions according to the significance criteria of indirect emission 按间接排放重要性准则确定为非重要间接排放，未进行量化	Not quantified 未量化	Not quantified 未量化
Indirect GHG Emissions from other sources (Category 6) 其他来源的间接温室气体排放（类别 6）	Not quantified as the non-significant indirect emissions according to the significance criteria of indirect emission 按间接排放重要性准则确定为非重要间接排放，未进行量化	Not quantified 未量化	Not quantified 未量化
Total Carbon Footprint 总的碳足迹		841,576.84	384,643.93
Biogenic Emissions 生物质排放		0.00	15,212.01

Appendix B Additional information about the Assurance Engagement
附录 **B** 有关鉴证业务的补充信息

Verification Objectives 核查目标	To express an opinion on whether the GHG Statement which is historical in nature 就历史性的温室气体声明是否： • Is accurate, materially correct and is a fair representation of GHG data and information 温室气体数据和信息的表述是否准确、在实质性上正确并公正表达 • Has been prepared in accordance with ISO 14064-1:2018, the criteria used by BSI to verify the GHG Organizational Statement 是否已按照 BSI 用于核查温室气体组织声明的标准 ISO 14064-1:2018 进行准备
Verification evidence gathering procedures 核查证据收集程序	• Evaluation of the monitoring and controls systems through interviewing employees observation & inquiry 通过与员工面谈、观察和询问来评估监控系统 • Verification of the data through sampling, recalculation, retracing, cross checking and reconciliation 通过抽样、重新计算、回溯、交叉检查和核对来验证数据
Verification Standards 核查标准	The verification was carried out in accordance with ISO 14064-3:2019 and ISO 14065:2020 核查按照 ISO 14064-3:2019 和 ISO 14065:2020 进行
Note: TCC Jingzhou Cement Co., Ltd. is responsible for the preparation and fair presentation of the GHG statement and report in accordance with the agreed criteria. BSI is responsible for expressing an opinion on the GHG statement based on the verification. 注：靖州台泥水泥有限公司负责按照商定的标准编制和公正表达温室气体声明和报告。BSI负责在核查的基础上对温室气体声明发表意见。	