



By Royal Charter

Opinion Statement

Product Carbon Footprint Verification Opinion Statement

This is to verify that: Taiwan Cement Corporation
Hoping Branch Hoping Plant
No. 263, Hoping Village
Sioulin Township
Hualien County
972005
Taiwan

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: PCFV 774764

As a result of carrying out the verification of product life cycle greenhouse gas emissions, it is the opinion of BSI with reasonable assurance that:

- The product carbon footprint with the functional unit of per tonne type I Portland cement is 0.899 tonnes of CO₂ equivalent.
- No material misstatements in this product life cycle greenhouse gas emission statement were revealed.

The product life cycle GHG data quality was verified to be acceptable against the requirements of ISO 14067: 2018.

This statement shall be valid for a maximum period of two years after the latest issue date on this certificate. Should there be a change in the life cycle of the product whose GHG emissions are being assessed, the validity of this opinion statement will cease.

For and on behalf of BSI:

Managing Director BSI Taiwan, Peter Pu

Originally Registration Date: 2022-10-08

Effective Date: 2022-10-08

Latest Revision Date: 2022-10-08

Expiry Date: 2024-10-07

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Taiwan Headquarters: 2nd Floor, No. 37, Ji-Hu Rd., Nei-Hu Dist., Taipei 114, Taiwan, R.O.C.
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Statement No: PCFV 774764

Location	Verification Information
Taiwan Cement Corporation Hoping Branch Hoping Plant No. 263, Hoping Village Sioulin Township Hualien County 972005 Taiwan 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 product carbon footprint with the functional unit of per tonne type I Portland cement is 0.899 tonnes of CO ₂ equivalent.

Product related information is as follows:

- System boundary for this product: Cradle to Gate
The product system boundary is consistent with its system boundary definition in the PCF report for product carbon footprint, which involves the acquisition of material and process activity stages in the product life cycle.
- The data in this product life cycle greenhouse gas study report is from 2021-01-01 to 2021-12-31.
- The site-specific data include related facilities from its own processes under the operational control of the organization and individual processes under the financial or operational control of the organization undertaking the CFP study.
- The secondary data include relative factors from EPA Carbon Footprint Calculation Platform and LCA software 9.4.0 Ecoinvent 3.8 (IPCC 2021 GWP 100a).

Originally Registration Date: 2022-10-08

Effective Date: 2022-10-08

Latest Revision Date: 2022-10-08

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Opinion Statement

Product Carbon Footprint Verification Opinion Statement

This is to verify that: Taiwan Cement Corporation
Suao cement plant
No. 46, Yongchang Rd.
Su-ao Township, Yilan County
270009, Taiwan

台灣水泥股份有限公司
蘇澳水泥廠
臺灣宜蘭縣蘇澳鎮
永昌路 46 號
270009

Holds Statement No: PCFV 774766

As a result of carrying out the verification of product life cycle greenhouse gas emissions, it is the opinion of BSI with reasonable assurance that:

- The product carbon footprint with the declared unit of a series products of Portland cement are verified shown as the following table.
- No material misstatements in this product life cycle greenhouse gas emission statement were revealed.

The product life cycle GHG data quality was verified to be acceptable against the requirements of ISO 14067:2018.

This statement shall be valid for a maximum period of two years after the latest issue date on this certificate. Should there be a change in the life cycle of the product whose GHG emissions are being assessed, the validity of this opinion statement will cease.

For and on behalf of BSI:

Managing Director BSI Taiwan, Peter Pu

Originally Registration Date: 2022-11-11

Effective Date: 2022-11-11

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Portland cement in bulk (卜特蘭水泥(散裝))

Declared Unit of Product 產品宣告單位	Product carbon footprint (Tonnes CO ₂ e) 碳足跡 (公噸二氧化碳)
One tonne type I Portland cement in bulk 每公噸卜特蘭水泥 (I 型散裝)	0.889
One tonne type II Portland cement in bulk 每公噸卜特蘭水泥 (II 型散裝)	0.921
One tonne type II with low alkali Portland cement in bulk 每公噸卜特蘭水泥 (I 型低鹼散裝)	0.918
One tonne type II/V Portland cement in bulk 每公噸卜特蘭水泥 (II/V 型散裝)	0.887
One tonne type II(MH) Portland cement in bulk 每公噸卜特蘭水泥 (II (MH) 散裝)	0.904

50 kg Portland cement in paper bag packaging 卜特蘭水泥(袋裝 50kg)

Declared Unit of Product 產品宣告單位	Product carbon footprint (Tonnes CO ₂ e) 碳足跡 (公噸二氧化碳)
50 kg type II Portland cement in paper bag packaging 50 公斤卜特蘭水泥 (II 型袋裝)	0.047
50 kg type II(MH) Portland cement in paper bag packaging 50 公斤卜特蘭水泥 (II (MH) 袋裝)	0.046

One tonne Portland cement in bulk bag packaging 卜特蘭水泥(太空包)

Declared Unit of Product 產品宣告單位	Product carbon footprint (Tonnes CO ₂ e) 碳足跡 (公噸二氧化碳)
One tonne type I Portland cement in bulk bag packaging 每公噸卜特蘭水泥 (I 型太空包)	0.897
One tonne type II Portland cement in bulk bag packaging 每公噸卜特蘭水泥 (II 型太空包)	0.930
One tonne type II(MH) Portland cement in paper bag packaging 每公噸卜特蘭水泥 (II (MH) 太空包)	0.913

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Location	Verification Information
Taiwan Cement Corporation Suao cement plant No. 46, Yongchang Rd. Su-ao Township, Yilan County 270009, Taiwan 台灣水泥股份有限公司 蘇澳水泥廠 臺灣宜蘭縣蘇澳鎮 永昌路 46 號 270009	The product carbon footprint with the declared unit of a series products of Portland cement are verified.

Product related information is as follows:

- System boundary for this product: Cradle to Gate
The product system boundary is consistent with its system boundary definition in the PCF report for product carbon footprint, which involves the acquisition of materials, process activity and the transportation of materials in the product life cycle.
- The data in this product life cycle greenhouse gas inventory report is from 2021-01-01 to 2021-12-31.
- The site-specific data include related facilities from its own processes under the operational control of the organization and individual processes under the financial or operational control of the organization undertaking the CFP study.
- The secondary data include relative factors from EPA Carbon Footprint Calculation Platform and SimaPro 9.4.0 Ecoinvent 3.8.

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產品碳足跡查證聲明

事業聯絡資訊

公司名稱：台灣水泥股份有限公司

聯絡電話：02-25317099

通訊地址：台北市中山區中山北路二段 113 號

查驗機構聯絡資訊

公司名稱：香港商英國標準協會太平洋有限公司台灣分公司

聯絡電話：02-26560333

通訊地址：台北市內湖區基湖路 37 號 2 樓

證書號碼：PCFV 283

查證結果摘要

英國標準協會依行政院環境保護署現行規定執行查證程序，查證結果發現未違反實質性門檻，符合行政院環境保護署認可之合理保證等級。

查證準則：ISO 14067: 2018 與行政院環境保護署發布推動產品碳足跡管理要點及其附件三產品碳足跡數據量化與查證規範、卜特蘭水泥產品類別規則第 1.0 版（文件編號：20-018；有效期：2025 年 07 月 29 日）。

查證範圍：涵蓋台灣水泥股份有限公司蘇澳水泥廠設於臺灣宜蘭縣蘇澳鎮永昌路 46 號之所在地。

碳足跡數據盤查期間：自民國 105 年 01 月 01 日至民國 105 年 12 月 31 日(基線)以及民國 109 年 01 月 01 日至民國 109 年 12 月 31 日。

產品名稱：卜特蘭水泥 I 型

功能單位：卜特蘭水泥 I 型(袋裝 50kg)

標示單位：卜特蘭水泥 I 型(袋裝 50kg)

生產工廠/地址：台灣水泥股份有限公司蘇澳水泥廠/臺灣宜蘭縣蘇澳鎮永昌路 46 號

查證數據：每標示單位產品排放 50.06 公斤二氧化碳當量(105 年度)

每標示單位產品排放 44.28 公斤二氧化碳當量(109 年度)

查證意見：依據查證者所執行之查證過程與程序，有充分證據顯示受查證組織之碳足跡聲明係根據協議之查證準則規範的溫室氣體評估與報告予以準備，並公正地呈現溫室氣體數據及相關資訊。

保留限制：無

其他查證資訊：本次查證年度(109 年度)、減碳基線(105 年度)查證數據及 109 年度引用減碳基線年度排放係數排放量數據如下表：

年度別	卜特蘭水泥 I 型(袋裝 50kg) (公斤二氧化碳當量)					
	原料取得階段	製造階段	配送銷售階段	使用階段	廢棄處理階段	總量
109 年度	1.249	42.958	0.000	0.000	0.070	44.28
105 年度(基線)	1.624	48.367	0.000	0.000	0.070	50.06
109 年度(引用 105 年度排放係數)	1.229	43.185	0.000	0.000	0.070	44.48



查證機構簽章：



查證作業實施日期

第一階段審查：中華民國 110 年 07 月 08-09 日

第二階段審查：中華民國 110 年 07 月 15 日

查證聲明書有效期間

中華民國 110 年 08 月 01 日至 112 年 07 月 31 日

本案主導查證員：

鄭仲堃
林文哥

查證人員簽章：

負責人簽章：

職稱：總經理

蒲樹登

保密性聲明

此報告及附件可能包含屬於受查證組織之機密資訊，除作為行政院環境保護署相關額度認可申請之證明文件外，未經受查證組織書面同意，其他個人、團體或公司禁止自行複製或發行。

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(一) 茲保證此報告及附件內容完全依照行政院環境保護署及有關機關相關規範，秉持公正、誠實之原則進行查證作業，如有違反，就政府機關所受損失願負連帶賠償責任之外，並接受主管機關依法令所為之行政處分及刑事處罰。

(二) 吾人瞭解如自身受政府機關委任從事公務，亦屬於刑法上之公務員，並瞭解刑法上圖利罪、公務員登載不實偽造罪條例之相關規定，如有違反，亦為刑法及貪污治罪條例之適用對象，願受最嚴厲之法律制裁。

(三) 保證本公司與受查證單位並無財務投資之關係，且符合主管機關對利益衝突迴避之要求。如有違反前述事實情事查證屬實時，此報告及附件內容願接受主管機關判定為無效之處分。