

# Opinion Statement

## Product Carbon Footprint Verification Opinion Statement

This is to verify that: West Coast Expressway  
Southern Region Temporary Engineering Office,  
Directorate General of Highways,  
Ministry of Transportation and Communications  
No. 29, Puzi 7th Rd.  
Puzi City  
Chiayi County  
Taiwan

交通部公路總局  
西部濱海公路南區臨時工程處  
臺灣  
嘉義縣  
朴子市  
朴子七路 29 號

Holds Statement No: PCFV 213

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

- The infrastructure carbon footprint with the declaration unit of Taiwan West Coast Expressway Ba Dong Liao to Jiu Kuai Chuo Section (297K+300~305K+750) Project (西濱快速公路八棟寮至九塊厝新建工程) is 351,365.46 tonnes of CO<sub>2</sub> equivalent.
- No material misstatements in this infrastructure life cycle greenhouse gas emission assertion were revealed.

The product life cycle GHG data quality was verified to be acceptable against the requirements of ISO/TS 14067:2013.

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.



Managing Director BSI Taiwan, Peter Pu

For and on behalf of BSI:

Originally Registration Date: 2018-05-21

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Location

Verification Information

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Ministry of Transportation and Communications  
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Chiayi County  
Taiwan  
交通部公路總局  
西部濱海公路南區臨時工程處  
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The infrastructure carbon footprint with the declaration unit of Taiwan West Coast Expressway Ba Dong Liao to Jiu Kuai Chuo Section (297K+300~305K+750) Project (西濱快速公路八棟寮至九塊厝新建工程) is 351,365.46 tonnes of CO<sub>2</sub> equivalent.

Project Name 標案名稱	排放量 Ton CO <sub>2</sub> -e
Taiwan West Coast Expressway Ba Dong Liao to Jiu Kuai Chuo Section WH77- A (297K+300~298K+613) Yan Cheng Interchange Project 西濱快速公路八棟寮至九塊厝WH77-A標鹽埕交流道新建工程	78,920.56
Taiwan West Coast Expressway Ba Dong Liao to Jiu Kuai Chuo Section WH77- B (298K+613~302K+225) Cigu River Section Project 西濱快速公路八棟寮至九塊厝WH77-B標七股溪橋段新建工程	155,600.78
Taiwan West Coast Expressway Ba Dong Liao to Jiu Kuai Chuo Section WH77- C (302K+225~305K+750) Jiu Kuai Chuo Interchange Project 西濱快速公路八棟寮至九塊厝WH77-C標九塊厝交流道新建工程	116,844.12

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#### Additional information

The related information is as follows:

- System boundary for this infrastructure : Cradle to Grave  
The infrastructure system boundary is consistent with its system boundary definition in PCF report for infrastructure carbon footprint, which involves the acquisition of raw material, construction activities, transportation, use, disposal and treatment in the infrastructure life cycle.
- The data in this infrastructure life cycle greenhouse gas inventory report was from 2012-01-31 to 2017-09-15.
- The primary activity data include related construction activities from its own processes under the operational control of the organization, and partial supplier including
  - Taiwan Cement Corporation (台灣水泥股份有限公司)
  - HUNG JUNG INDUSTRY COM. LTD (宏業實業股份有限公司)
  - Kuncing Asphalt Industry Co. Ltd (坤慶瀝青工業股份有限公司)
  - Honglin Industrial Co., Ltd (鴻林興業股份有限公司)
  - HAI KWANG ENTERPRISE CORPORATION (海光企業股份有限公司)
  - TUNG HO STEEL ENTERPRISE CORP. (東和鋼鐵企業股份有限公司)
- The secondary data include relative factors from public sources and LCA software Gabi 6.5.1.12.
- The infrastructure carbon footprint with the functional unit of per kilometer (in width from 11.4~26.3 meters) of Taiwan West Coast Expressway Ba Dong Liao to Jiu Kuai Chuo Section (297K+300~305K+750) Project onshore mainline (西濱快速公路八棟寮至九塊厝新建工程陸上段主線) is 35,388.17 tonnes of CO<sub>2</sub> equivalent.
- The infrastructure carbon footprint with the functional unit of per kilometer (in width of 19.9 meters) of Taiwan West Coast Expressway Ba Dong Liao to Jiu Kuai Chuo Section (297K+300~305K+750) Project mainline across the river (西濱快速公路八棟寮至九塊厝新建工程跨河段主線) is 74,841.47 tonnes of CO<sub>2</sub> equivalent.
- The infrastructure carbon footprint with the functional unit of per kilometer (in width of 7.5 meters) of Taiwan West Coast Expressway Ba Dong Liao to Jiu Kuai Chuo Section (297K+300~305K+750) Project Ramp (西濱快速公路八棟寮至九塊厝新建工程匝道) is 15,753.53 tonnes of CO<sub>2</sub> equivalent.

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