



Impartiality Verification Opinion

Statement No.:
C567750-2021-GHG-TWN-DNV

Issued date:
15 November, 2022

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This is to verify initiate reporting of Greenhouse Gas Inventory Management Report (2021) of

Wan Hai Lines Ltd.

Scope of Verification

DNV Business Assurance (DNV) has been commissioned by Wan Hai Lines Ltd. ("the Organization") to perform a verification of the greenhouse gas statements of Greenhouse Gas Inventory Management Report (2021) (hereafter the "Inventory Report") in Taiwan, ROC with respect to the sites listed in Appendix A.

The Reporting Boundary for the verification including direct GHG emissions and removals, indirect GHG emissions from imported energy, indirect GHG emissions from transportation, indirect GHG emissions from products used by the Organization and indirect GHG emissions associated with the use of products from the Organization. The further descriptions for the Reporting Boundary listed in Appendix B.

Verification Criteria and GHG Programme

The verification was performed on the basis of ISO 14064-1:2018 as well as criteria given to provide for consistent GHG emission identification, calculation, monitoring and reporting.

The verification was conducted in accordance with ISO 14066:2011, ISO 14065:2013, ISO14064-3:2019

Verification Statement

It is DNV's opinion that the Inventory Report (2021), which was published on A October 24, 2022 (Ver. 1), is free from material discrepancies in accordance with the verification criteria identified as stated above. The opinion is decided based on the following approaches,

- For the Direct (Category 1) and Indirect GHG emissions from imported energy (Category 2), the reliability of the information within the Inventory Report (2021) were verified with reasonable level of assurance.
- For the other indirect GHG emissions(Category 3,4,5), the involved information was verified and tested using agreed-upon procedures, AUP, defined in Inventory Report.

Also, the GHG information as stated in Appendix B and C have been verified during the process.

Chien Yi Jerry Huang
GHG Verifier

Place and date:
Taipei, 15 November, 2022

For the issuing office:
DNV Business Assurance Co., Ltd.
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220, Taiwan

Management Representative



Supplement to Statement

Process and Methodology

The reviews of the Inventory Report and relevant documents, and the subsequent follow-up interviews have provided DNV with sufficient evidence to determine the fulfilment of stated criteria.

Quantification of Greenhouse Gas Emission

The Inventory Report covering the period 1st January, 2021 to 31st December, 2021, it is DNV's opinion that 100% GHG emissions and removals identified within the Reporting Boundary has been included in the Inventory Report as claimed in accordance with the verification criteria identified as stated above, and results in quantification of GHG emissions that are real, transparent and measurable.

Organizational Boundary of Verification

Financial Management Control Operational Management Control Equity Share

GHGs Verified

CO₂ CH₄ N₂O HFCs PFCs SF₆ NF₃

The Quantification of GHG emissions and removals in Direct and Indirect Emission Sources classified as ISO 14064-1:2018:

Category	Direct and indirect GHG emissions categorization*	Emissions and removals verified, tonnes CO ₂ -e
1	Direct emissions and removals**	4,940,583.727
2	Indirect GHG emissions from imported energy	13,668.911
<i>Total greenhouse gas emissions and removals in Category 1 & 2</i>		4,954,252.638
3	Indirect GHG emissions from transportation	-
4	Indirect GHG emissions from products used by the Organization	2,989,581.693
5	Indirect GHG emissions associated with the use of products from the Organization	-
<i>Total greenhouse gas emissions and removals in Category 3,4 & 5</i>		2,989,581.693

* Unless other indicated, the Indirect Emissions was calculated based on 2021 electricity emission factor of 0.509 kg CO₂-e/kwh, which was announced by Bureau of Energy, Ministry of Economic Affairs. The Global Warming Potential (GWP) defined in IPCC AR5 (2013) has been choose and correctly referred by the Organization. Fuel used in maritime transportation factors are defined in Fourth Greenhouse Gas Study 2020 - IMO

* The scope of indirect emissions was defined by own pre-determined criteria for significance of indirect emissions.

Verification Opinion

unmodified
 modified
 adverse