

Independent Assurance Opinion

Verification Opinion No.:
C629256-2022-AG-TWN-DNV

Issued date:
01 March, 2024

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This is to verify initiate reporting of Greenhouse Gas Inventory Management Report (2022) of

SWANCOR HOLDING CO., LTD.

Scope of Verification

DNV Business Assurance (DNV) has been commissioned by SWANCOR HOLDING CO., LTD. to perform a verification of the greenhouse gas statements of Greenhouse Gas Inventory Management Report (2022) (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 14065:2020, ISO14064-3:2019.

Verification Opinion

It is DNV's opinion that the Inventory Report (2022), which was published on December 27, 2023 (Ver. IV), 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 (2022) were verified with reasonable level of assurance.
- For the other indirect GHG emissions, the involved information was tested using agreed-upon procedures, AUP, defined in Inventory Report.

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

Jesse Wu
GHG Verifier



Place and date:
Taipei, 01 March, 2024

For the issuing office:
DNV Business Assurance Co., Ltd.
29Fl., No. 293, Sec. 2, Wenhua Rd.,
Banqiao District, New Taipei City 220,
Taiwan



Management Representative

Supplement to Verification Opinion

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, 2022 to 31st December, 2022, 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 in Direct and Indirect Emission Source:

Category	Direct and indirect GHG emissions categorization*	SWANCOR HOLDING CO., LTD (Corporate Headquarters) \ SWANCOR INNOVATION & INCUBATION CO., LTD.	SWANCOR HIGHPOLYMER CO., LTD.	SUNWELL CARBON FIBER COMPOSITE CORPORATION	COTECH INC.	Emissions verified, tonnes CO ₂ e
1	Direct emissions**	3.170	712.840	13.110	21.081	750.202
2	Indirect GHG emissions from imported energy	28.098	930.571	689.420	400.837	2,048.926
<i>Total greenhouse gas emissions in Category 1 & 2</i>		31.268	1,643.411	702.529	421.918	2,799.128
3	Indirect GHG emissions from transportation	15.300	2,646.176	237.461	2.061	2,885.698
4	Indirect GHG emissions from products used by the Organization	23.501	361.790	123.134	73.324	581.749
5	Indirect GHG emissions associated with the use of products from the Organization	Not Significant				
<i>Total greenhouse gas emissions in Category 3, 4 & 5</i>		38.801	3,007.966	360.595	75.385	3,467.447
<i>Total greenhouse gas emissions</i>		70.069	4,651.377	1,063.124	497.303	6,266.575

*: Unless other indicated, the Indirect Emissions was calculated based on 2022 electricity emission factor of 0.495 kg CO₂e/kWh, which was announced by Bureau of Energy, Ministry of Economic Affairs. The Global Warming Potential (GWP) defined in IPCC AR6 (2023) has been choose and correctly referred by the Organization.

** : the details subcategory of each category could be refer later in the Report.

Verification Opinion

unmodified
 modified
 adverse

Appendix A to Verification Opinion No. C629256-2022-AG-TWN-DNV

APPENDIX A

The greenhouse gas statements of SWANCOR HOLDING CO., LTD. Greenhouse Gas Inventory Management Report (2022) with respect to the following sites:

Site	Address
SWANCOR HOLDING CO., LTD (Corporate Headquarters) SWANCOR INNOVATION & INCUBATION CO., LTD.	Rm. B202, Rm. B218, Rm. B219, Rm. C202, Rm. C303, No. 2, Wenxian Rd., Nantou City, Nantou County, Taiwan
SWANCOR HIGHPOLYMER CO., LTD.	No. 5, No. 7, No. 9, No. 11, Gongye S. 6th Rd., Nantou City, Nantou County, Taiwan
SUNWELL CARBON FIBER COMPOSITE CORPORATION	3F, 4F., No. 11, Gongye S. 6th Rd., Yongfeng Vil., Nantou City, Nantou County, Taiwan No. 7, No. 9, Gongye Rd., Nantou City, Nantou County, Taiwan
COTECH INC.	No. 21, Jing 1st Rd., Wuqi Dist., Taichung City, Taiwan

APPENDIX B

The Reporting Boundary of indirect emissions, other than Imported Energy:

Category	Subcategory	Boundary
Indirect GHG emissions from transportation	Emissions from downstream transport for goods	Transportation of products
Indirect GHG emissions from products used by organization	Fuel-and-energy-related activities (not included in Category 1 or 2)	Upstream emissions of purchased fuels (Gasoline, Diesel Oil, Water and Natural Gas) and electricity

The scope of other indirect emissions (other than Imported Energy with specified/limited list of sources) was defined by SWANCOR HOLDING CO., LTD.'s own pre-determined criteria for significance of indirect emissions, considering the intended use of the GHG inventory.

APPENDIX C

For direct emissions quantified separately for each GHG as below, in tonnes of CO₂e:

CO ₂	CH ₄	N ₂ O	HFCs	PFCs	SF ₆	NF ₃	TOTAL
713.945	17.683	0.655	17.918	0.0000	0.0000	0.0000	750.202