



Independent Assurance Opinion

Verification Opinion No.:
C607793-2022-AG-TWN-DNV

Issued date:
10 July, 2023

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

Zyxel Networks Corporation

Scope of Verification

DNV Business Assurance (DNV) has been commissioned by Zyxel Networks Corporation ('the Organization') 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 May, 2023, 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 verified and 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.

Yan-De Carlos Lin
GHG Verifier

Yan De Carlos Lin

Place and date:
Taipei, 10 July, 2023

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

David White

Management Representative

Lack of fulfilment of conditions as set out in the Certification Agreement may render this Certificate invalid. This Verification Opinion is based on the information made available to us and the engagement conditions detailed above. Hence, DNV cannot guarantee the accuracy or correctness of the information. DNV cannot be held liable by any party relying or acting upon this Verification Opinion.

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DNV ZNATW-OP-F50, Rev.10, 2023-2

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, 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 and removals in Direct and Indirect Emission Source:

Category	Direct and indirect GHG emissions categorization*	Emissions and removals verified, (tonnes CO ₂ -e)
1	Direct emissions and removals**	97.3324
2	Indirect GHG emissions from imported energy	693.1908
<i>Total greenhouse gas emissions and removals in Category 1 & 2</i>		790.5232
3	Indirect GHG emissions from transportation	34.2870
4	Indirect GHG emissions from products used by the Organization	178.9838
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>		213.2708

*: 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 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 Statement No. C607793-2022-AG-TWN-DNV

APPENDIX A

The greenhouse gas statements of Zyxel Networks Corporation Greenhouse Gas Inventory Management Report (2022) with respect to the following sites:

Site	Address
Zyxel Networks (Zyxel Communications plant)	No. 2, Industry East Rd. 1x, Hsinchu Science Park, Hsinchu 30075, Taiwan (R.O.C.)
Zyxel Networks Taipei	11F, No.225, Sec. 3, Beixin Rd., Xindian Dist., New Taipei City 23143, Taiwan (R.O.C.)

APPENDIX B

The Reporting Boundary of Zyxel Networks Corporation Greenhouse Gas Inventory Management Report (2022)

Category	Reporting Boundary
Direct GHG emissions and removals	Mainly from fuel consumption, HFCs emission, other GHG sources or sinks inside organizational boundaries and that are owned or controlled by the organization
Indirect GHG emissions from imported energy	The amount of greenhouse gas emissions produced by the input of electricity and energy.
Indirect GHG emissions from transportation	<ul style="list-style-type: none"> - Transportation of selected purchased goods (100% by weight, Excluded Exhibit, RMA, Sample). - Transportation of employees for business-related activities.
Indirect GHG emissions from products used by the Organization	<ul style="list-style-type: none"> - Upstream (cradle-to-gate) emissions of selected purchased goods (Including Electricity, Tap Water, Motor Gasoline and Diesel Oil). - Disposal or treatment of waste and waste transportation.

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

APPENDIX C

For direct emissions and removals, quantified separately for each GHG as below, in tonnes of CO₂-e :

GHG type	GHG Emission (ton CO ₂ -e)							Total
	CO ₂	CH ₄	N ₂ O	HFCs	PFCs	SF ₆	NF ₃	
Total	3.4963	35.4718	0.1102	58.2541	-	-	-	97.3324
%	3.59%	36.44%	0.11%	59.85%	0.00%	0.00%	0.00%	100.00%

Indirect emission-Imported energy emission :

Consumption(KWh)	Emission Factor	Unit	Emission (ton CO ₂ -e)
1,361,867.9105	0.5090000000	ton CO ₂ e/ KWh	693.1908