

Independent Verification Opinion

Verification Opinion No.:
C665845-2023-AG-TWN-DNV

Issued Place:
Taipei

Issued Date:
26 June, 2024

This is to verify initiate reporting of Greenhouse Gas Inventory Management Report (2023) of

AUO Corporation

Scope of Verification

DNV Business Assurance (DNV) has been commissioned by AUO Corporation ('the Organization') to perform a verification of the greenhouse gas statements of Greenhouse Gas Inventory Management Report (2023) (hereafter the "Inventory Report") 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 (2023), which was published on May 23, 2024 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 (2023) 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 C has been verified during the process.

Sophia Kim
GHG Verifier



Place and date:
Taipei, 26 June, 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



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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 1 January, 2023 to 31 December, 2023, it is DNV's opinion that 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 Control Operational Control Equity Share

GHGs Verified

CO₂ CH₄ N₂O HFC_s PFC_s SF₆ NF₃

The Quantification of GHG emissions:

Category		Emission (ton CO ₂ e)
Category 1	Direct GHG emissions and removals	66,809.19
Category 2	Indirect GHG emissions from imported energy	2,361,055.73
Category 3	Indirect GHG emissions from transportation	679,742.71
	Upstream transportation and distribution	639,882.00
	Business travel	978.92
	Employee commuting	13,342.18
	Downstream transportation and distribution	25,539.61
Category 4	Indirect GHG emissions from products used by an organization	1,438,790.89
	Purchased goods and services	825,778.96
	Purchased capital goods	163,597.90
	Fuel-and-energy-related activities (not included in Scope 1 or 2)	447,726.93
	Waste generated in operations	1,687.10
Category 5	Indirect GHG emissions associated with the use of products from the Organization	52,020.58
	Downstream leased assets	14,873.54
	Investments	37,147.04

**The Imported Energy Indirect Emissions was calculated based on 2023 electricity emission factor of 0.494 kg CO₂e/kwh in Taiwan, which was announced by Energy Administration, Ministry of Economic Affairs. Additionally, an electricity emission factor of 0.5703 kg CO₂e/kwh was used in China and 0.417 kg CO₂e/kWh used in Singapore, as announced by the Ministry of Ecology and Environment of the People's Republic of China and Singapore National Statistical Yearbook. The Global Warming Potential (GWP) defined in IPCC AR5 (2013) has been chosen and correctly referred by the Organization.

** Accumulated 13,702.57 Mwh renewable energy, solar power, was purchased and used in Taiwan and 56,005.74 Mwh used in China during 2023.

** Another 30,000 Mwh Green Electricity Certificate Purchased in China.

Verification Opinion

unmodified modified adverse

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.12, 2024-4

Appendix to Verification Opinion No. C665845-2023-AG-TWN-DNV

APENDIX A

Site	Fab	Address	Total Emissions (Tonnes CO ₂ -e)	Total Direct Emissions (Tonnes CO ₂ -e)	Total Energy Indirect Emissions (Tonnes CO ₂ -e)
AUHC	Headquarters/ L3B	No. 1, Li-Hsin Rd. 2, Hsinchu Science Park, Hsinchu, Taiwan, R.O.C.	10,935.82	637.36	10,298.46
	Global Research Center	No. 1, Gongye E. 3rd Rd., Hsinchu City, Taiwan (R.O.C.)	1,634.56	74.44	1560.1147
	L3C	No. 23, Li-Hsin Rd., Hsinchu Science Park, Hsinchu, Taiwan, R.O.C.	33,584.91	944.66	32640.2472
	Dormitory	Mabuville at Beipu Township, Hsinchu County, Taiwan, R.O.C	1,247.80	289.29	958.5082
AULT	L4A/L5A/L5B	No. 1, Xinhe Rd., Aspire Park, Lungtan, Taoyuan, Taiwan, R.O.C.	180,293.47	8,159.33	172,134.14
AULK	L6B	No. 228, Lungke St., Lungtan, Taoyuan, Taiwan, R.O.C. / No. 288, No. 338, No. 338-1, Lungyuan Rd. 1, Lungtan, Taoyuan, Taiwan, R.O.C.	240,665.02	7,562.68	233,102.34
AUHY	L3D/L5D	No. 189, Hwaya Rd. 2, Kueishan, Taoyuan, Taiwan, R.O.C.	237,991.24	7,307.54	230,683.71
AUTC	L5C/L6A/L7A/L7B/L8A	No. 1, JhongKe Rd., Central Taiwan Science Park, Taichung, Taiwan, R.O.C. / No. 2, No. 3, Keya Rd., Central Taiwan Science Park, Taichung, Taiwan, R.O.C.	866,944.23	19,097.41	847,846.82
AUHL	L8B	No. 1, Machang Rd., Houli Dist., Taichung City, Taiwan, R.O.C.	351,172.17	6,771.42	344,400.75
	Dormitory	No. 300, Machang Rd., Houli Dist., Taichung City, Taiwan, R.O.C.	1,677.17	145.16	1,532.01
AUTN	C4A/C5D/C6C	No.36, Keji 1st Rd., Annan Dist., Tainan City, Taiwan, R.O.C.	24,578.64	217.71	24360.9273
AUKH	C6D	No.9, Luke 3rd Rd., Luzhu Dist., Kaohsiung City, Taiwan, R.O.C.	26,196.55	143.45	26053.0947
AUSZ	S01/S02/S06	No. 398, Suhong Zhong Road, Suzhou Industrial Park, 215021, China	82,312.35	2,608.20	79,704.15
AUXM	S11/S13/S17	No. 1689, Xiang An North Road, Xiang An Branch, Torch Hi-tech Industrial Development Zone, Xiamen, 361102, China	59,592.72	1,931.96	57,660.76
AUKS	L6K	No. 6, Longteng Rd., Kunshan Economic-Technological Development Area, China	238,625.76	8,135.39	230,490.37
AUST	L4B	No. 10, Tampines Industrial Avenue 3, Singapore 528798	70,232.87	2,691.61	67,541.26
AUSK	E11/E12	Bratislavská 517, 911 05 Trenčín, Slovak Republic	134.80	91.5786	43.2224
AUSH	Kunshan office	No. 6, Longteng Rd., Kunshan Economic & Technical Development Zone, Kunshan City 215300, China	44.85	0	44.85

APPENDIX B

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

Category	Subcategory	Boundary
Indirect GHG emissions from transportation	Upstream transportation and distribution	Transportation emissions for the procurement of main materials, such as glass substrate, PI spacer, target, gaseous chemical...etc.
	Business travel	Transportation of employees for business-related activities
	Employee commuting	Transportation of employees travelling between company and residence place, factory shuttle bus included (employees located at Mainland and overseas plants were not included)
	Downstream transportation and distribution	Transportation of products sold by the Company
Indirect GHG emissions from products used by organization	Purchased goods and services	Upstream (cradle-to-gate) emissions of selected purchased goods, such as glass substrate, metal backplane, liquid crystals, photoresist, developer, etchant, Array stripper and thinner...etc
	Purchased capital goods	Upstream (cradle-to-gate) emissions of purchased capital goods
	Fuel-and-energy-related activities (not included in Scope 1 or 2)	Upstream emissions of purchased fuels (Diesel Oil, Liquefied Petroleum Gases, Motor Gasoline and Natural Gas) and electricity
	Waste generated in operations	Transportation and disposal or treatment of waste (waste generated in Mainland and overseas plants were not included)
Indirect GHG emissions associated with the use of products from the organization	Downstream leased assets	The scope 1 and scope 2 emissions of lessees that occur during operation of leased assets: BenQ Materials
	Investments (subsidiary)	100% owned and engaged in manufacturing: AUO Crystal Corp.

APPENDIX C

The fluorinated greenhouse gases emissions with implementing abatement equipment, according to the Tier 2c method referred to 2019 IPCC Guidelines for National Greenhouse Gas Inventories Volume 3 Industrial Processes and Product Use, Chapter 6 Electronics Industry Emissions.

Fluorinated greenhouse gases	Fluorinated GHG emissions from manufacturing (ton CO2e)	Reduced Fluorinated GHG emissions by abatement system (ton CO2e)	Fluorinated GHG emissions if without abatement system (ton CO2e)
PFCs, SF6, HFCs, NF3	8,918.76	1,633,253.73	1,642,172.49

**Fluorinated GHG emissions reduction rate by abatement system:

$$\text{Reduced Fluorinated GHG emissions} / \text{Fluorinated GHG emissions if without abatement system} = 99.46\%$$