



DNV

Independent Assurance Statement

Statement No.:
C522937-2021-DNV-TWN

Issued date:
30 May, 2022

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

AU Optronics Corporation

Scope of Verification

DNV Business Assurance (DNV) has been commissioned by AU Optronics Corporation to perform a verification of the greenhouse gas assertion of Greenhouse Gas Inventory Management Report (2021) (hereafter the "Inventory Report") with respect to the sites listed in Appendix.

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 of selected purchased goods, 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	Upstream leased assets	Operation of assets leased by AUO and not included in scope 1 and scope 2 – reported by lessee.
	Purchased goods and services	Upstream (cradle-to-gate) emissions of selected purchased goods, such as glass substrate, liquid crystals, photoresist, developer, etchant, stripper and thinner...etc
	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	Investments	Emissions of subsidiary, AUO Crystal Corp., from energy use (Diesel Oil and electricity)

Verification Criteria and GHG Programme

The verification was performed on the basis of ISO 14064-1:2018, Corporate Value Chain (Scope 3) Accounting and Reporting Standard, as well as IPCC 2006 Tier 2b methodology for fluorinated GHG emissions inventory, 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 and ISO 14064-3:2006.

Verification Statement

It is DNV's opinion that the Inventory Report (2021), which was published on April 30, 2022, 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 GHG emissions and Indirect GHG emissions from imported energy, the reliability of the information within the Inventory Report (2021) were verified with reasonable level of assurance.
- For the other indirect GHG emissions and the fluorinated greenhouse gases emission reduction, the involved information were verified and tested using agreed-upon procedures, AUP, defined in Inventory Report.

Chun-Nan Lin
GHG Verifier



Place and date:

Taipei, 30 May, 2022

For the issuing office:
DNV Business Assurance Co., Ltd.
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Banqiao District, New Taipei City 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 the Inventory Report 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

Direct Emissions: 79,186.29 tonnes CO₂e

Imported Energy Indirect Emissions: 2,841,287.55 tonnes CO₂e

Quantification of the other indirect emissions:

Category	Subcategory	Tonnes CO ₂ e
Indirect GHG emissions from transportation	Upstream transportation and distribution	7,972.00
	Business travel	869.04
	Employee commuting	38,732.73
	Downstream transportation and distribution	67,284.90
Indirect GHG emissions from products used by organization	Upstream leased assets	168.63
	Purchased goods and services	616,395.10
	Fuel-and-energy-related activities (not included in Scope 1 or 2)	479,272.02
	Waste generated in operations	25,660.99
Indirect GHG emissions associated with the use of products from the organization	Investments	49,729.23

The indirect GHG emissions from imported energy of operations located at Taiwan were calculated based on 2020 electricity emission factor of 0.502 kg CO₂-e/kwh, which was announced by Bureau of Energy, Ministry of Economic Affairs. The Global Warming Potential (GWP) of IPCC AR4 (2007) was applied for Direct and Imported Energy Indirect Emissions, while IPCC AR5 (2013) was applied for the other Indirect Emissions.

The fluorinated greenhouse gases ("FCs" defined by 2006 IPCC Guidelines) emissions in year 2021 with implementing abatement equipment was calculated as 14,114.33 Tonnes CO₂-e, and self-declared 1,937,601.85 Tonnes CO₂-e emission reduction, according to the Tier 2b method referred to 2006 IPCC Guidelines for National Greenhouse Gas Inventories Volume 3 Industrial Processes and Product Use, Chapter 6 Electronics Industry Emissions.

Verification Opinion

☒ unmodified
☐ modified
☐ adverse

Appendix

The greenhouse gas assertion of AU Optronics Corporation Greenhouse Gas Inventory Management Report (2021) with respect to the following sites:

Site	Fab	Address	Total Emissions (Tonnes CO2-e)	Total Direct Emissions (Tonnes CO2-e)	Total Energy Indirect Emissions (Tonnes CO2-e)
AUHC	Headquarters/ L3B	No. 1, Li-Hsin Rd. 2, Hsinchu Science Park, Hsinchu, Taiwan, R.O.C.	19,751.02	1,540.67	18,210.35
	Global Research Center	No. 1, Gongye E. 3rd Rd., Hsinchu City, Taiwan (R.O.C.)	1,316.97	36.07	1,280.90
	L3C	No. 23, Li-Hsin Rd., Hsinchu Science Park, Hsinchu, Taiwan, R.O.C.	43,189.65	1,062.41	42,127.24
	Dormitory	Mabuville at Beipu Township, Hsinchu County, Taiwan, R.O.C.	743.72	7.38	736.33
AULT	L4A/L5A/L5B	No. 1, Xinh Rd., Aspire Park, Lungtan, Taoyuan, Taiwan, R.O.C.	230,992.61	9,135.86	221,856.75
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.	296,139.71	10,700.61	285,439.10
AUHY	L3D/L5D	No. 189, Hwaya Rd. 2, Kueishan, Taoyuan, Taiwan, R.O.C.	267,807.61	8,022.52	259,785.09
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.	1,015,674.05	20,977.68	994,696.37
AUHL	L8B	No. 1, Machang Rd., Houli Dist., Taichung City, Taiwan, R.O.C.	345,261.40	7,118.97	338,142.43
AUTN	C4A/C5D/C6C	No.36, Keji 1st Rd., Annan Dist., Tainan City, Taiwan, R.O.C.	63,830.61	363.35	63,467.26
AUKH	C5E	No.9, Luke 3rd Rd., Luzhu Dist., Kaohsiung City, Taiwan, R.O.C.	28,577.97	150.89	28,427.08
AUSZ	S01/S02/S06	No. 398, Suhong Zhong Road, Suzhou Industrial Park, 215021, China	124,069.17	3,408.56	120,660.61
AUXM	S11/S13/S17	No. 1689, Xiang An North Road, Xiang An Branch, Torch Hi-tech Industrial Development Zone, Xiamen, 361102, China	93,200.74	2,530.15	90,670.59
AUKS	L6K	No. 6, Longteng Rd., Kunshan Economic-Technological Development Area, China	307,768.97	10,158.77	297,610.20
AUST	L4B	No. 10, Tampines Industrial Avenue 3, Singapore 528798	80,476.72	3,801.77	76,674.95
AUSK	E11/E12	Bratislavská 517, 911 05 Trenčín, Slovak Republic	318.10	135.94	182.16
AUSH	Kunshan office	No. 6, Longteng Rd., Kunshan Economic & Technical Development Zone, Kunshan City 215300, China	1,354.82	34.69	1,320.13
Total			2,920,473.84	79,186.29	2,841,287.55