



Independent Assurance Opinion

Verification Opinion No.:
C602352-2022-AG-TWN-DNV

Issued date:
30 May, 2023

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

Gamania Digital Entertainment Co., Ltd. and its Affiliated Enterprise

Scope of Verification

DNV Business Assurance (DNV) has been commissioned by GAMANIA DIGITAL ENTERTAINMENT CO., LTD. ('GAMANIA' or '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, and indirect GHG emissions from products used by 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 27, 2023 (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 (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.

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Alvin Chen
GHG Verifier

Place and date:
Taipei, 30 May, 2023

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

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 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 relevant 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, (Kg CO ₂ -e) |
|---------------------------------------------|----------------------------------------------------------------------------------|----------------------------------------------------------|
| 1 | Direct emissions and removals** | 45,881.928 |
| 2 | Indirect GHG emissions from imported energy | 5,267,655.712 |
| 3 | Indirect GHG emissions from transportation | 818,830.353 |
| 4 | Indirect GHG emissions from products used by the Organization | 1,929,417.726 |
| 5 | Indirect GHG emissions associated with the use of products from the Organization | 792,964.992 |
| Total greenhouse gas emissions and removals | | 8,854,750.711 |

*: 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

The greenhouse gas statements of GAMANIA DIGITAL ENTERTAINMENT CO., LTD. and its Affiliated Enterprise Greenhouse Gas Inventory Management Report (2022) with respect to the following sites:

| Site | Organization | Address |
|------|-------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| 1 | 遊戲橘子數位科技股份有限公司總部 Gamania Digital Entertainment Co., Ltd. (HQ) | 台北市內湖區瑞湖街 111 號 No. 111, Ruihu St., Neihu Dist., Taipei City, Taiwan (R.O.C.) |
| | | 台北市內湖區陽光街 365 號 (停車場) Ln. 365, Yangguang St., Neihu Dist., Taipei City, Taiwan (R.O.C.) |
| 2 | 遊戲橘子總部 158 號 Gamania Digital Entertainment Co., Ltd. Site 158. | 台北市內湖區瑞湖街 158 號 3 樓 3F., No. 158, Ruihu St., Neihu Dist., Taipei City 11494, Taiwan (R.O.C.) |
| 3 | 今日傳媒股份有限公司 NOWnews Network Co., Ltd. | 台北市內湖區瑞湖街 160 號 3 樓 3F., No. 160, Ruihu St., Neihu Dist., Taipei City 11494, Taiwan (R.O.C.) |
| 4 | 樂利數位科技 Jollywiz Digital Technology Co., Ltd. | 台北市內湖區瑞湖街 88 號 3 樓之 3 3F.-3, No. 88, Ruihu St., Neihu Dist., Taipei City 11494, Taiwan (R.O.C.) |
| 5 | 樂點公司(台中) Gash Point Co., Ltd. | 台中市西區公館路 240 號 1 樓 No. 240, Gongguan Rd., West Dist., Taichung City, Taiwan (R.O.C.) |
| 6 | 樂點公司(高雄) Gash Point Co., Ltd. | 高雄市左營區文府路 383 號 1 樓 1F., No. 383, Wenfu Rd., Zuoying Dist., Kaohsiung City, Taiwan (R.O.C.) |
| 7 | 果核數位 (中和機房) Digicentre Company Limited (Zhonghe server room) | 新北市中和區中正路 736 號 14 樓 14F., No. 736, Zhongzheng Rd., Zhonghe Dist., New Taipei City, Taiwan (R.O.C.) |
| 8 | 果核數位 (國分機房) Digicentre Company Limited (Guofen server room) | 台北市愛國東路 31 號(3F、4F、6F、7F) 3F., 4F., 6F., 7F., No. 31, Aiguo E. Rd., Zhongzheng Dist., Taipei City, Taiwan (R.O.C.) |
| 9 | 客服中心 (蟻力) Ants' Power Co., Ltd. | 新北市中和區中正路 736 號 8 樓 A1、12 樓之 4 8F A1., 12F.-4, No. 736, Zhongzheng Rd., Zhonghe Dist., New Taipei City, Taiwan (R.O.C.) |
| 10 | 幼橘園 GamaGarden | 台北市內湖區港墘路 221 巷 33 號 1 樓 1F., No. 221, Gangqian Rd., Neihu Dist., Taipei City, Taiwan (R.O.C.) |
| 11 | 果核數位 (富國機房) Digicentre Company Limited (Fuguo server room) | 桃園市富國路 100 號 No. 100, Fuguo Rd., Taoyuan Dist., Taoyuan City, Taiwan (R.O.C.) |

APPENDIX B

The Reporting Boundary of GAMANIA DIGITAL ENTERTAINMENT CO., LTD. and its Affiliated Enterprise Greenhouse Gas Inventory Management Report (2022)

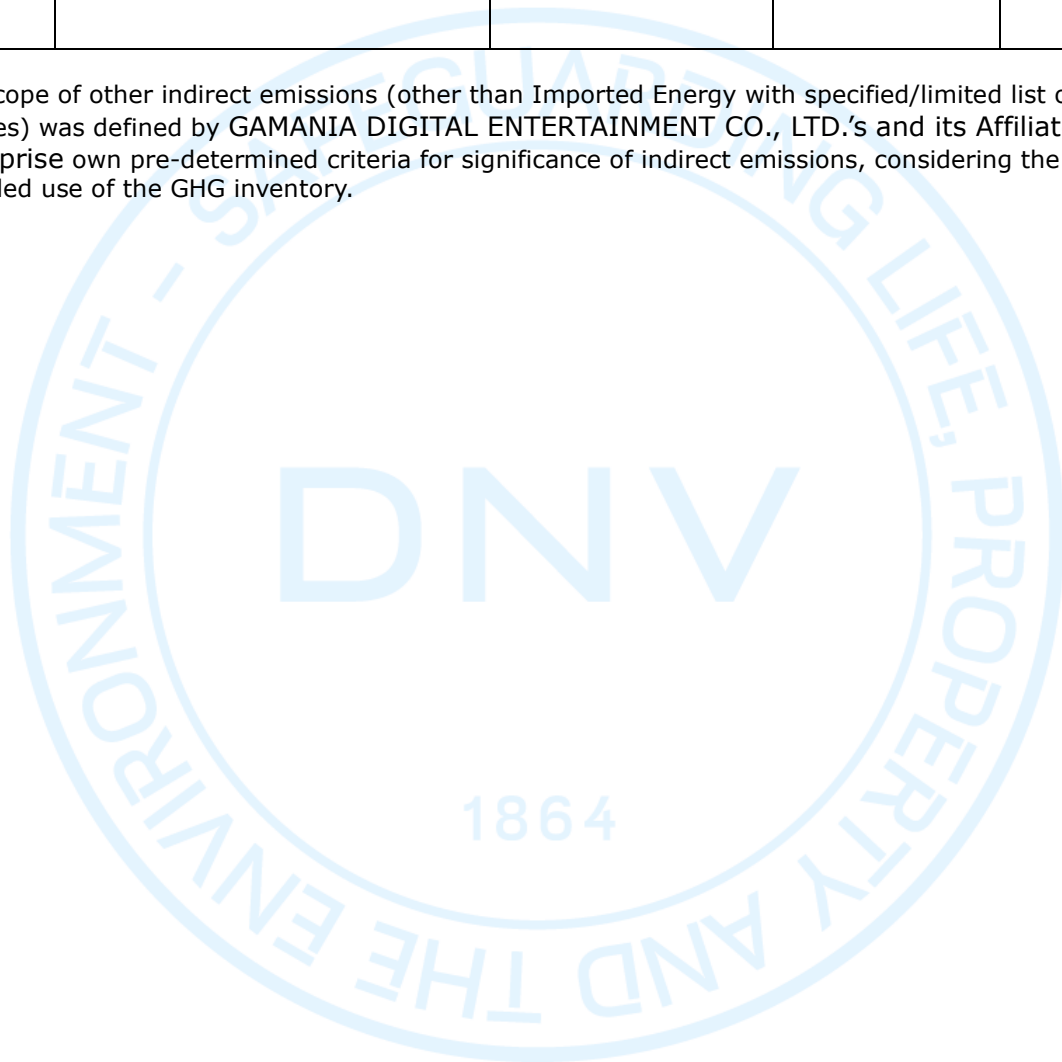
| Category | Reporting Boundary* | | | |
|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| | description | Sub-category | Emission Source | Applied Site(s) |
| Direct GHG emissions and removals | The business of GAMANIA and its Affiliated Enterprise is mainly in the multi-dimensional digital technology industry, and the operating resources are mainly the offices where human power is located. Its main direct sources of GHG emissions are the company's generator diesel emissions, official vehicle gasoline emissions, refrigerant emissions, rental cars burning unleaded gasoline to generate CO ₂ , N ₂ O, CH ₄ , office air conditioners and refrigerator refrigerant emissions HFCs. There is a septic tank for sewage treatment. In addition, the headquarters and the GamaGarden will purchased natural gas, which will generate CO ₂ , N ₂ O, and CH ₄ when used. | 1.1 Stationary combustion | Diesel generator 發電機 | Site 1, Site 7 |
| | | 1.1 固定式燃燒排放源 | Natural Gas Pipelines 天然氣 | Site 1 |
| | | | Liquefied petroleum gas 液化石油氣 | Site 1, Site 10 |
| | | 1.2 Mobile combustion | Privately owned vehicle used for business purpose (car, motobike) 私車公用(汽車、機車) | Site 5, Site 6 |
| | | 1.2 移動式排放源 | | |
| | | 1.4 Fugitive emissions | Chiller/air conditioner/refrigerator/water dispenser 冰水機/冷氣/冰箱/飲水機 | Site 1, Site 3, Site 5, Site 6, Site 2, Site 7, Site 4, Site 9, Site 10 |
| | | 1.4 逸散性排放 | | |
| | | Septic tank 化糞池 | Site 5, Site 7 | |
| | | Fire extinguisher 滅火器 | Site 7 | |
| Indirect GHG emissions from imported energy | Long-term use of computers, lighting equipment, refrigerators, air conditioners and other equipment accounts for the largest proportion of total emissions due to indirect emissions from input energy, and is the largest source of greenhouse gas emissions, among which the most important corresponding emission items is the electricity consumed in office and public area, and the types of greenhouse gas emissions include CO ₂ generated by electricity. | 2.1 Imported energy 2.1 外購能源 | Imported electricity 外購電力 | All Site |
| Indirect GHG emissions | Among the indirect greenhouse gas emissions from transportation, the sources of | 3.1 Upstream Transportation 3.1 上游運輸 | Upstream Transportation 上游運輸 | Site 1 (JollyBuy) |

| | | | | |
|---------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|-----------------------------------------------------------------|
| from transportation | activities or facilities projects include emissions from employee commuting and employee travelling, as well as the downstream goods transportation due to e-commerce shipments from JollyBuy. Among them, employee commuting accounts for the largest proportion of emissions, downstream transportation is the second, and employee travel is the last. Greenhouse gas emissions come from the consumption of gasoline or electricity to generate CO ₂ . | 3.2 Downstream transport 3.2 下游運輸 | Downstream transport 下游運輸 | Site 1 (JollyBuy) |
| | | 3.3 Employee commuting 3.3 員工通勤 | Employee commuting 員工通勤 | All Site |
| | | 3.5 Business travel 3.5 商務旅行 | Business travel 商務旅行 | Specific departments in Site 1, Site 3, Site 4, Site 5, Site 6 |
| Indirect GHG emissions from products used by the Organization | The main workplace of GAMANIA and its Affiliated Enterprise is in the office, so the indirect greenhouse gas emissions from the use of products or services by the organization mainly include indirect emissions from purchasing electricity, energy including diesel, gasoline, and natural gas, and capital goods including computers, notebooks, screen and server, consumables and tap water. In addition, there are also emissions from office waste disposal, however for those offices other than GAMANIA Headquarters, the related emissions were not included in the quantification due to outsourcing of waste management. In addition, emissions from the use of photocopier services are also included in this category. | 4.1 Products used by organization 4.1 源自採購商品的排放 | Purchased electricity 外購電力 | All Site |
| | | | Purchased gasoline 公務車外購汽油 | Site 5, Site 6 |
| | | | Purchased natural gas 外購天然氣 | Site 1, Site 10 |
| | | | Purchased diesel 發電機外購柴油 | Site 1, Site 7 |
| | | | Consumables toilet paper 消耗品(衛生紙) | Site 1, Site 5, Site 6, Site 10 |
| | | | Consumables tissue paper 消耗品(擦手紙) | Site 1, Site 3 |
| | | | Consumables 消耗品(清潔袋) | Site 5 |
| | | | Tap water 辦公室自來水使用 | Site 1, Site 2, Site 3, Site 4, Site 5, Site 6, Site 7, Site 10 |
| | 4.2 Capital goods that are purchased and amortized by the organization. 4.2 資本商品的排放 | Capital goods including computers, notebooks, screen and server 企業資本財(電腦、筆記型電腦、伺服器、螢幕) | Site 1, Site 2, Site 3, Site 5, Site 6, Site 7, Site 8, Site 10, Site 11 | |
| | 4.3 The disposal of solid and liquid waste 4.3 固體和液體廢棄物處理 | The disposal of solid and liquid waste outsourcing. 固體廢棄物委外處理排放 | Site 1 | |



| | | | | |
|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|------------------------------------------------------|-----------------------------------------|
| | | 4.5 Use of services 4.5 使用其他服務產生的排放 | Copy machine rental 影印機 | Site 1, Site 4, Site 7, Site 9, Site 10 |
| Indirect GHG emissions associated with the use of products from the Organization | The main products and services provided by GAMANIA and its Affiliated Enterprise are online games and related e-commerce consulting services, media, etc. | 5.4 Emissions from downstream leased assets 5.4 下游租賃資產產生的排放 | Energy use from leased to other entities 異業客戶電量使用 | Site 7, Site 8 |

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





APPENDIX C

For direct emissions and removals of GAMANIA DIGITAL ENTERTAINMENT CO., LTD. and its Affiliated Enterprise reported in the Report (2022), quantified separately for each GHG as below, in kg of CO₂-e:

| CO ₂ | CH ₄ | N ₂ O | HFCs | PFCs | SF ₆ | NF ₃ | TOTAL |
|-----------------|-----------------|------------------|------------|------|-----------------|-----------------|------------|
| 10,241.364 | 1,112.133 | 102.230 | 34,426.201 | - | - | - | 45,881.928 |
| 22.32% | 2.42% | 0.22% | 75.03% | 0% | 0% | 0% | 100% |

