ENVIRONMENTAL DATA DISCLOSURE HYPERTEC GROUP

CIVIL YEAR 2023

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Table of Contents

1. INTRODUCTION

At Hypertec Group, our environmental responsibility goal has always been to enhance efficiency in creating and delivering technology solutions globally. This commitment extends through our supply chain, where we prioritize consistency, transparency, and environmental stewardship. We aim to reduce our energy consumption, environmental impact, carbon footprint, and water usage.

Hypertec Group is dedicated to improving our environmental performance while consistently meeting customer expectations and legal requirements for our products and services. To align our processes with these commitments, we implement and maintain an Integrated Management System (IMS) as a core part of our business strategy, designed to meet the standards of ISO 9001, ISO 14001, ISO 45001, and ISO 50001. These certifications support our goals of minimizing energy consumption, water usage, and carbon emissions.

We are also committed to transparency through ESG reporting and CDP participation, enabling us to track metrics and initiate meaningful reductions. Additionally, we adhere to the SA8000 standard in our Supply Chain Engagement.

Hypertec Group actively works both internally and externally to minimize climate risks and reduce the global carbon footprint of our operations. We demonstrate this commitment by implementing a corporate Climate and Energy Policy, executing a comprehensive Climate Change Strategy, and establishing corporate-wide objectives and targets that support our environmental goals.

2. SCOPE

General Information	Description
Representative	Ali Khosroshahi, Senior Manager, Quality Assurance and Sustainability akhosroshahi@hypertec.com, **Cell Phone:** 514.707.2236
System	Environmental Management System – Emissions and Consumption One-site
Address	9300 Trans-Canada Highway, Saint-Laurent, Québec, Canada, H4S 1K5 5555 Rue Cypihot, Saint-Laurent, Québec, Canada, QC H4S 1R3
Assessment Scope	The buildings are located at the following locations: **Location 1:** 9300 Trans-Canada Highway, Saint-Laurent, Québec, Canada, H4S 1K5, where Hypertec Group. **Occupation Period for whole operations:** January 2023 to January 2024. **Area occupied 1:** 652,565.48 square feet. **Location 2 :** 5555 Rue Cypihot, Saint-Laurent, Québec, Canada, QC H4S 1R3 **Occupation Period**: September 2023 to January 2024. **Area 2:** 178,940 square feet **Revenue 2023:** 331.55 million CAD. All Hypertec Group business units encompass Hypertec Cloud, Hardware Technology Solutions (HTS), Hypertec Solution Partners (HSP), Ciara Tech (Manufacturing), and Medioh Telehealth. Disclosure of standard(s) and framework(s) used for the calculations and reporting, where applicable, or the standard or framework used to achieve the third party.
Assessment Reference	The environmental data reported by Hypertec Group on the following aspects. Water consumption Energy consumption Scope 1 and Scope 2 greenhouse gas emissions Scope 3 greenhouse gas emissions: Category 1 (Purchased Goods and Services, Category 2 (Capital goods), Category 4 (upstream transportation and distribution), Category 5 (Waste Generated in Operations), Category 6 (Business Travel), Category 7 (Employee Commuting), Category 8 (Upstream Leased Assets), Category 9 (Downstream Transportation and Distribution), Category 11 (Use of Sold Products).

Methodology Reference	**Reporting, Verification, and Validation Reference:** GRI 301: Materials, GRI 302: Energy 2016, GRI 303: Water and Effluents 2018, and GRI 305: Emissions 2016. ISO 14064-3 Green gases – Part 3: Specification with guidance for verifying and validating greenhouse gas statements. **Scope 1, Scope 2, and Scope 3 Calculation Reference:** Greenhouse gas protocol standard, Corporate Accounting and Reporting Standard, Scope 2 Guidance, and Scope 3 Guidance Standard. Scope 3 _Category 1: Average-data method. Scope 3 _Category 2: Average spend-based method Scope 3 _Category 3: Fuel-and-Energy activities not included in Scope 1 or Scope 2 Scope 3_Category 4: Spend-based method. Scope 3_Category 5: Waste-type-specific method Scope 3_Category 6: distance-based method Scope 3_Category 7: Average-data method Scope 3_Category 8: Average-data method Scope 3_Category 9: Spend-based method Scope 3_Category 11: Products that directly consume energy (fuels or electricity) during use
Energy and water Reduction Calculation	**Reference Standards:** GRI 301, 302, 303, 305: ISO 50001, ISO 14001, ISO 14064-3 **Calculation Basis:** Reductions are measured against the 2019 baseline and assessed annually, considering efficiency measures, operational improvements, and renewable energy purchases. **The primary calculation methods include:** Energy and water reductions are tracked internally based on utilities bills. Fuel savings converted to energy using standard conversion factors (GJ/L, MWh, etc.). Renewable Energy Certificates (RECs) accounted for based on contractual agreements. **Data Validation & Verification:** Energy data is verified through internal EMS tracking and reports, 3rd party audit.
Management Approach	Hypertec has a structured energy management approach focused on improving efficiency, reducing greenhouse gas emissions, and transitioning to renewable energy. This strategy is integrated into our sustainability and operational framework. We have a clear Hypertec has implemented a structured energy management approach focused on improving energy efficiency, reducing greenhouse gas emissions, and transitioning to renewable energy sources. This approach is fully integrated into the company's sustainability strategy and operational processes. To demonstrate our commitment, Hypertec has established a comprehensive **Energy Policy** aimed at optimizing energy use across operations and the supply chain. Our target is to **reduce electricity consumption by 1.67% per year**, aligned with our **Net-Zero emissions roadmap**, using **2019 as the baseline year**. Hypertec procures Renewable Energy Certificates (RECs: 3,474 for CY2023) to reduce its Scope 2 emissions by claiming renewable energy usage, reinforcing our commitment to clean energy and emission reductions.

	The **QA team and building management team** are responsible for implementing and maintaining energy systems in accordance with **ISO 50001:2018**, continuously monitoring and improving system performance. Additionally, the **Sustainability Committee** oversees energy reduction targets, ensuring progress toward our sustainability goals.
Energy/ GHG emissions Intensity Ratio	Hypertec has chosen two ratios to measure energy / GHG emissions intensity: 1. **Physical Intensity**: Total energy consumption/emissions divided by the building's total area. 2. **Economic Intensity**: Total energy consumption/emissions divided by annual production.
Impacts on the Economy, Environment, and People	**Positive Impacts:** • **Economy:** Job creation within the supply chain. • **Environment:** Energy optimization and use of recycled materials. • **Social:** Fair labor practices, compliant with SA8000 certification. **Potential Negative Impacts:** • **Environment:** Indirect CO_2 emissions related to energy use and transportation. • **Supply Chain:** Social and environmental risks associated with raw material extraction. Our impacts are indirect, stemming from energy consumption and risks linked to our suppliers. We do not produce ozone-depleting substances and ensure our suppliers comply with regulations. **Policies and Commitments:** • Responsible procurement policy with ESG criteria. • Energy policy in line with ISO 50001. • Environmental management system (ISO 14001). • Electronic waste management through certified subcontractors. **Actions to Manage These Impacts:** • **Prevention:** Energy consumption reduction (-32% in 2023), supplier evaluations, e-waste management. • **Impact Reduction:** Increase in renewable energy usage and improved traceability of IT components. • **Managing Positive Impacts:** Product innovation and internal training. **Effectiveness Monitoring:** • Monitoring energy consumption in accordance with ISO 50001, annual ESG supplier evaluations. • Goals: 50% reduction in Scope 1 and 2 emissions by 2028, and achieving net-zero emissions by 2050 as part of the Net Zero Challenge.
Reporting Year	The calendar: Civil year for 2023
Date	October 16, 2024
Verification	The environmental data for each GRI aspect is assured by an independent third party, Marie Bellemare-MB Consulting, on March 5, 2025.

3. STATEMENT

All activities and processes implemented by Hypertec Group Inc., as well as all building zones of the organization identified above, are included in the monitored information regarding water and energy consumption, as well as Scope 1, Scope 2, and Scope 3 (Categories 1, 2, 3, 4, 5, 6, 7, 8, 9, and 11) greenhouse gas emissions, which are used for calculations and reporting.

Environmental aspect	Assessment Description
Water consumption	Water consumption data is obtained directly from utility bills and meter readings, which are tracked and monitored internally by designated Hypertec Group employees. Our internal verification process ensures accuracy and consistency, with periodic reviews and validations to maintain data reliability.
Energy Consumption	Internal verification is conducted by a designated Hypertec Group employee. The energy sources include electricity (ventilation, heating, and lighting), oil fuel, and natural gas for water heating. **Stationary Sources** encompass natural gas consumption for heating and oil fuel (diesel) for emergency generators. **Mobile Source** encompasses oil fuel (diesel) for company owned vehicles.
Scope 1, Scope 2, and Scope 3 (Category 1, 3 & 4) and greenhouse gas emissions	Internal verification made by designated Hypertec Group employee. These emissions are aligned with the total energy consumption and value chain emissions.

4. CONTENT REPORT

Hypertec- Group has used the civil year for performance evaluation and reporting, with **2019** serving as the baseline year.

4.1.Results for Water Consumption

Civil Year	2019	2020	2021	2022	2023
ML	57.895	56.108	44.837	47.767	51.651
Annual variation (amount ML)	-	-1.787	-11.271	+2.930	+3.884
Annual variation (%)	-	-3.09%	-20.09%	6.53%	8.13%
Variation vs 2019 (amount ML)	-	-1.787	-13.058	-10.128	-6.244
Variation vs 2019 (%)	-	-3.09%	-22.55%	-17.49%	-10.79%

4.2. Results for Energy Consumption

4.2.1. Electricity[1]

Civil Year	2019	2020	2021	2022	2023
MWh	56,670	50,190	42,390	46,390	31,163
GJ[2]	204,012	180,684	152,604	167004	122,186.8
Annual variation (GJ)	-	-23,328	-28,080	+14,400	-44,817.2
Annual variation (%)	-	-11.4%	-15.5%	+9.4%[3]	-32.8%
Variation vs 2019 (GJ)	-	-23,328	-51,408	-37,008	-81,825.2
Variation vs 2019 (%)	-	-11.4%	-25.2%	-18.1%	-45.0%

4.2.2. Natural Gas – Stationary Source

Civil Year	2019	2020	2021	2022	2023
m^3	142,464.45	108,056.87	93,838.86	98,750.00	98,470.00
GJ[4]	5,399.40	4,095.35	3,556.49	3,742,62	3,732.01
Annual variation (GJ)	-	-1,304.05	-538.86	+186.13	-10.61
Annual variation (%)	-	-24.15%	-13.16%	5.23%	-0.28%
Variation vs 2019 (GJ)	-	-1,304.05	-1,842.91	-1,656.78	-1,667.39
Variation vs 2019 (%)	-	-24.15%	-34.13%	-30.68%	-30.88%

[1] Hypertec's heating and cooling systems operate entirely on electricity. As a result, the reported electricity consumption includes energy used for climate control (heating and cooling), eliminating the need for separate reporting under heating and cooling categories.
Hypertec does not utilize steam in its operations; therefore, it is not applicable to our energy reporting.
[2] Electricity conversion factor: **0.0036 GJ/kWh**. Source: Ministry-Environment_Conversion-Table-GHG.
[3] In 2022, electricity consumption increased by 9.4% primarily due to the gradual return of employees to the office after the COVID-19 pandemic.
[4] Natural Gas conversion factor: **0.03789 GJ/M³**. Source: Ministry-Environment_Conversion-Table-GHG

4.2.3. Oil Fuel (Diesel) from – Stationary and Mobile Sources

4.2.3.1. Oil Fuel for company owned-vehicles – Mobile Source

Civil Year	2019	2020	2021	2022	2023
MWh	0.0230	0.0230	0.013	37.37	125.10
GJ[5]	0.0828	0.0828	0.0468	0.3525	0.4504
Annual variation (GJ)	-	0	-0.0360	+0.3057	+0.0979
Annual variation (%)	-	0%	-43.48%	86.72%	27.78%
Variation vs 2019 (GJ)	-	0	-0.0360	+0.2697	+0.3676
Variation vs 2019 (%)	-	0%	-43.48%	325.72%	443.00%

4.2.3.2. Oil Fuel for emergency generator – Stationary source

Civil Year	2019	2020	2021	2022	2023
MWh	220	111.66	99.78	220.61	269.00[6]
GJ[7]	792	401.97	359.22	794.19	968.39
Annual variation (GJ)	-	-390.03	-42.75	+434.97	+174.20
Annual variation (%)	-	-49.25%	-10.64%	121.10%	21.93%
Variation vs 2019 (GJ)	-	-390.03	-432.78	+2.19	+176.39
Variation vs 2019 (%)	-	-49.25%	-54.65%	0.28%	22.27%

4.2.3.3. Total Energy

Civil Year	2019	2020	2021	2022	2023
MWh	57,926	51,926	43,451	47,648	32.593
GJ	208,533.6	186,933.6	156,423.6	171,532.8	117,334.8
Annual variation (GJ)	-	-21,600	-30,510	15,109.2	-54,198
Annual variation (%)	-	-10.36%	-16.32%	9.66%	-31.60%
Variation vs 2019 (GJ)		-21,600	-52,110	-37,000.8	-91,198.8
Variation vs 2019 (%)	-	-10.36%	-24.99%	-17.74%	-43.73%

[5] Fuel conversion factor: 0.03345 GJ/L. Source: Ministry-Environment_Conversion-Table-GHG
[6] This increase is due to a major power outage in Montreal in the spring of 2023, caused by the situation attributed to the ice storm.
[7] Generator fuel conversion factor: 0.03880 GJ/L. Source: Ministry-Environment_Conversion-Table-GHG

4.2.3.4. Source of Energy

Civil Year	2019	2020	2021	2022	2023
Renewable (MWh)	56,670	50,190	42,390	46,3900	31.163
Renewable_Annual variation (MWh)	-	-6,480	-7,800	+4,000	-15,227
Renewable_Variation vs 2019	-	-6,480	-14,280	-10,280	-25,507
Non-renewable (MWH)	1,750	1,733	1,061.3	1,261.7	1.430
Non-renewable_Annual variation (MWh)	-	-17	-671.7	+200.4	+168.3
Non-renewable_Variation vs 2019	-	-17	-688.7	-488.3	-320

4.2.4. Energy requirements of products and services

Hypertec and Ciara's products are designed with a strong focus on energy efficiency, integrating **ENERGY STAR®** and **80 PLUS®** certified components to minimize power consumption and environmental impact.

Our power supplies are certified under the **80 PLUS program**, which measures efficiency at different load levels. The efficiency improvements of higher certification levels (**Gold, Titanium**) contribute to lower power consumption and reduced energy losses as heat.

Energy Efficiency Comparison of Power Supplies

Certification	Efficiency at 20% Load	Efficiency at 50% Load	Efficiency at 100% Load
80+ Bronze	82%	85%	82%
80+ Gold	87%	90%	87%
80+ Titanium	94%	96%	94%

Example Power Consumption (for a system requiring 500W):

Certification	Power Draw at 50% Load	Power Draw at 100% Load
80+ Bronze	~588W	~610W
80+ Gold	~555W	~575W
80+ Titanium	~520W	~535W

By transitioning to 80+ Gold and Titanium-certified power supplies, we have reduced energy waste and improved power conversion efficiency in our servers and IT products, helping our customers lower their overall energy consumption.

Our energy reduction calculations compare newer product models to previous generations using:

- 2019 as the baseline year, aligning with our corporate sustainability targets.
- Measured power consumption data from standardized test conditions.
- Efficiency gains from hardware upgrades, including improved power supplies, and processors.

Our methodologies for evaluating energy efficiency improvements include: **ENERGY STAR procedures** to validate energy performance, **80 PLUS** efficiency measurements to assess power supply improvements, and Internal lifecycle energy assessments, considering power draw at idle, load, and peak conditions.

- Additionally, we actively work with suppliers to further enhance energy efficiency across our product line, implementing: Optimized power delivery with higher efficiency voltage regulation modules (VRMs).
- Low-power DRAM (LPDDR4x, DDR5) and NVMe SSDs, reducing overall system energy needs.
- Energy-efficient networking components (IEEE 802.3az) to minimize operational power consumption.

4.3. Results for Greenhouse Gas Emissions, Scope 1, Scope 2 & Scope 3.

Calculations were made for the two scopes:

Scope 1: Direct GHG emissions from those sources owned by Hypertec Group. This accounts for the on-site combustion of natural gas and emissions from Hypertec Group's three vehicles for its operation and customer services. The GHG emissions from the diesel generator have been included. Hypertec Group does not own forklifts powered by fossil fuel nor register refrigerant leaks.

Furthermore, Hypertec does not utilize biogenic energy sources in its operations; therefore, no significant biogenic emissions are reported.

The baseline year for emissions tracking is **2019**, serving as the reference point for measuring progress toward reduction targets. Emission factors used in the calculations are sourced from the **Ministry of Environment Conversion Table for GHG Emissions**[8] and Intergovernmental Panel on Climate Change (IPCC) 2006 Guidelines for Global Warming Potential (GWP) values, with CH_4 (28) and N_2O (265). to ensure accuracy and consistency in reporting.

[8] Ministry-Environment_Conversion-Table-GHG

CO_2e calculation formula:

$CO_2e=CO_2+(CH_4 \times GWP_{CH4})+(N_2O \times GWP_{N2O})$, Data obtained from utility invoices and internal monitoring records.

Scope 2: Electricity indirect GHG emissions are the emissions resulting from the purchased electricity by Hypertec Group from Hydro Quebec. The source of these emissions is at the site from which the electricity is produced.

Hypertec has applied a **Location-Based** approach for calculating Scope 2 emissions, aligning with the **GHG Protocol**. The baseline year for emissions tracking is **2019**, serving as the reference point for measuring progress toward reduction targets.

For this reporting year, the emission factor used is **0.0005 tCO_2/kWh**[9], sourced from Hydro-Québec's official emission rates document.

Table for GHG Emissions. This includes CO_2, CH_4, and N_2O, although CH_4 and N_2O emissions are negligible.

Scope 3: encompasses indirect greenhouse gas (GHG) emissions in the Hypertec value chain, including upstream and downstream activities not directly owned or controlled by Hypertec Group. For the reporting year, Hypertec Group is disclosing Scope 3 emissions across several categories: **Category 1** pertains to emissions from purchased goods and services, **Category 2** covers emissions related to capital goods, **Category 3:** Fuel-and-Energy activities not included in Scope 1 or Scope 2, **Category 4** addresses emissions from upstream transportation and distribution, **Category 5** includes emissions from waste generated in operations, **Category 6** relates to emissions from business travel, **Category 7** encompasses emissions from employee commuting, **Category 8** involves emissions from upstream leased assets, **Category 9** pertains to emissions from downstream transportation and distribution, and **Category 11** addresses emissions from the use of sold products.

The base year for Scope 3 emissions calculation is 2021, as it marks the first year Hypertec began quantifying these emissions.

Emission factors used are sourced from the GHG Protocol for the general ones, However, For IT equipment, we used the EPA database, Please refer to Annex 2 for a complete list of the factors applied.

[9] https://www.hydroquebec.com/data/developpement-durable/pdf/taux-emission-ges-hq-1990-2023.pdf

4.3.1. Referring to Scope 1

Civil Year	CO2 t CO_2-e	CH4 t CO_2-e	N2O t CO_2-e	Gross Global Scope 1 t CO_2-e	Intensity Metric t CO_2-e / sq.ft	Intensity Metric t CO_2-e /$ CAD Revenue
2019	345.1862	0.0084	0.0065	345.20	5.64E-3	2.3E-6
2020	237.4669	0.0054	0.0045	237.48	3.92E-3	7.9E-7
2021	208.7541	0.0049	0.0049	208.76	3.44E-3	6.0E-7
2022	255.0050	0.0067	0.0067	255.02	4.21E-3	5.1E-7
2023	258.2201	0.00364	0.00348	258.22	1.82E-04	7.79E-07

4.3.2. Referring to Scope 2 – Location-based

Civil Year	Gross Global Scope 2 t CO_2-e	Intensity Metric t CO_2-e / sq.ft	Intensity Metric t CO_2-e /$ CAD Revenue
2019	28.20	4.7E-04	1.88E-07
2020	25.10	4.1E-04	8.37E-08
2021	21.20	3.5E-04	6.06E-08
2022	23.20	3.8E-04	4.64E-08
2023	15.58	1.10E-05	4.70E-08

Procurement of Renewable Energy Certificates (REC):

Hypertec procures Renewable Energy Certificates (RECs) as part of its Scope 2 emissions reduction strategy. The following table summarizes our electricity consumption, REC procurement, and Scope 2 emissions reduction for the past two years:

Civil Year	Electricity (MWh)	Number of RECs.	Scope 2 Emissions t CO_2-e	Reduction Scope 2 Emissions t CO_2-e
2022	6415.00	6415.00	3.21	-
2023	3474.00	3474.00	1.74[10]	1.47

[10] This result is obtained using the emission factor from Hydro-Québec, which is equal to 0.0005.

Methodology for REC Calculation :

- Total RECs Purchased = Total electricity consumption * 14.70% * 95%
  - *14.70%*: Ciara's share of total building electricity consumption
  - *95%*: Renewable Energy Coverage Factor
  - *1 REC (CER) = 1 MWh of renewable electricity*

Accounting for RECs in Energy and Emissions Reporting

- The RECs purchased are accounted for using the GHG Protocol's market-based accounting approach.
- The total electricity consumption reported includes all energy used by Hypertec, while the Scope 2 emissions reported reflect the adjusted values after applying the RECs.
- Scope 2 emissions are calculated based on:

  Electricity covered by RECs ×Emission Factor
- The RECs do not reduce total energy consumption but rather offset Scope 2 emissions by ensuring the equivalent amount of electricity is sourced from renewable energy.

Hypertec does not use carbon offsets to meet GHG emissions targets. Instead, we procure **Renewable Energy Certificates (RECs)** as part of our Scope 2 emissions reduction strategy. RECs represent the environmental attributes of renewable electricity generation and are used to account for purchased renewable electricity in accordance with the **GHG Protocol's market-based accounting approach**.

In **2023**, we procured **3,474 MWh of RECs**, further lowering Scope 2 emissions to **1.74 t CO_2-e**, achieving a **1.47 t CO_2-e reduction** from the previous year.

We transparently disclose REC purchases in our sustainability reporting and confirm that they are **not carbon offsets**, but rather an instrument used for **Scope 2 emissions reduction** through renewable energy procurement.

4.3.3. Referring to Total Gross Scope 1 and Scope 2

Civil Year	Gross Global Scope 1 & 2 t CO_2-e	Intensity Metric (t CO_2-e / sq.ft)	Intensity Metric (t CO_2-e /$ CAD Revenue)
2019	373.00	6.2E-03	2.5E-06
2020	263.00	4.3E-03	8.8E-07
2021	230.00	3.8E-03	6.1E-07
2022	278.00	4.6E-03	5.6E-07
2023	273.80	1.93E-04	8.26E-07

4.3.4. Referring to Scope 3

In 2023, Hypertec Group expanded its scope of work regarding scope 3 emissions by incorporating 7 additional categories compared to the previous year. Below are the results obtained for each category:

Category 1: Purchased Goods and Services

Civil Year	Gross Global Scope 3_C1 t CO_2-e	Intensity Metric (t CO_2-e / sq.ft)	Intensity Metric (t CO_2-e /$ CAD Revenue)
2021	140,745.32	2.32	4.0E-04
2022	195,830.45	3.23	3.9E-04
2023	524,850.41	3.71E-01	1.58E-03

Category 2: Capital goods

Civil Year	Gross Global Scope 3_C1 t CO_2-e	Intensity Metric (t CO_2-e / sq.ft)	Intensity Metric (t CO_2-e /$ CAD Revenue)
2021	-	-	-
2022	-	-	-
2023	2,762.88	1.95E-03	8.33E-06

Category 3: Fuel-and-Energy activities not included in Scope 1 or Scope 2

Civil Year	Gross Global Scope 3_C3 t CO_2-e	Intensity Metric (t CO_2-e / sq.ft)	Intensity Metric (t CO_2-e /$ CAD Revenue)
2021	21,231.69	0.35	6.07E-05
2022	23,241.23	0.38	4.65E-05
2023	0	0	0

Category 4: Upstream Transportation and Distribution

Civil Year	Gross Global Scope 3 _ C4 t CO_2-e	Intensity Metric (t CO_2-e / sq.ft)	Intensity Metric (t CO_2-e /$ CAD Revenue)
2021	542.19	8.9E-3	1.55E-06
2022	753.64	1.2E-2	1.51E-06
2023	102.14	7.21E-05	3.08E-07

Category 5: Waste Generated in Operations

Civil Year	Gross Global Scope 3 _ C5 t CO_2-e	Intensity Metric (t CO_2-e / sq.ft)	Intensity Metric (t CO_2-e /$ CAD Revenue)
2021	-	-	-
2022	-	-	-
2023	5.47	3.86E-06	1.65E-08

Category 6: Business travel

Civil Year	Gross Global Scope 3 _ C6 t CO_2-e	Intensity Metric (t CO_2-e / sq.ft)	Intensity Metric (t CO_2-e /$ CAD Revenue)
2021	-	-	-
2022	-	-	-
2023	59.22	5.00E-05	2.14E-07

Category 7: Employee Commuting

Civil Year	Gross Global Scope 3 _ C7 t CO_2-e	Intensity Metric (t CO_2-e / sq.ft)	Intensity Metric (t CO_2-e /$ CAD Revenue)
2021	-	-	-
2022	-	-	-
2023	59.22	4.18E-05	1.79E-07

Category 8: Upstream Leased Assets

Civil Year	Gross Global Scope 3 _ C8 t CO_2-e	Intensity Metric (t CO_2-e / sq.ft)	Intensity Metric (t CO_2-e /$ CAD Revenue)
2021	-	-	-
2022	-	-	-
2023	1,883.65	1.33E-03	5.68E-06

Category 9: Downstream Transportation and Distribution

Civil Year	Gross Global Scope 3 _ C9 t CO_2-e	Intensity Metric (t CO_2-e / sq.ft)	Intensity Metric (t CO_2-e /$ CAD Revenue)
2021	-	-	-
2022	-	-	-
2023	3,538.27	2.50E-03	1.07E-05

Category 11: Use of Sold Products

Civil Year	Gross Global Scope 3 _ C9 t CO_2-e	Intensity Metric (t CO_2-e / sq.ft)	Intensity Metric (t CO_2-e /$ CAD Revenue)
2021	-	-	-
2022	-	-	-
2023	51,615.42	3.64E-02	1.56E-04

4.3.5. Referring to Total Gross Scope 3 (Category 1, 2, 3, 4, 5, 6, 7, 8, 9 & 11)

Civil Year	Gross Global Scope 3 t CO_2-e	Intensity Metric (t CO_2-e / sq.ft)	Intensity Metric (t CO_2-e /$ CAD Revenue)
2021	162,519.20	2.681	4.643E-04
2022	219,825.32	3.626	4.397E-04
2023	584,888.26	4.13E-01	1.76E-03

4.4. Performance Evaluation

4.4.1. Absolute Value

Civil Year	2019	2020	2021	2022	2023
Energy (MWh)	57,926	51,926	43,451	47,648	32,594
Variation (MWh)	-	-6,000	-8,475	+4,197	-15,054
Energy Variation (%)	-	-10	-16	10	-32
Gross Total Scope 1	345.20	237.48	208.76	255.02	258.22
Scope 1 Variation vs 2019 (tCO2 e)		-107.72	-136.44	-90.18	-86.98
Scope 1 Variation vs 2019 (%)	-	-31%	-40%	-26%	-25%
Gross Total Scope 2	28.20	25.10	21.20	23.20	15.58
Scope 2 Variation vs 2019 (tCO2 e)	-	-3.10	-7.00	-5.00	-12.62
Scope 2 Variation vs 2019 (%)	-	-11%	-25%	-18%	-45%
Gross Total Scope 1 & 2	373	263	230	278	273.8
Scope 1 & 2 Variation vs 2019 (tCO_2e)	-	-110	-143	-95	-99.2
Scope 1 & 2 Variation vs 2019 (%)	-	-30%	-38%	-25%	-27%
Gross Total Scope 3	-	-	162,519.20	219,825.32	584,888.26
Scope 3 Variation vs 2021 (tCO_2e)	-	-	-	+57,306.12	+422,369.06

Scope 3 Variation vs 2021 (%)	-	-	-	+35%	+260%
Gross Total Scope 1, 2 & 3	-	-	162,749.17	220,103.54	585,162.60
Annual variation Scope 1,2 & 3 (tCO2 e)	-	-	-	+57,354.37	+365,059.06
Gross Total Scope 1, 2 & Scope 3 Variation (%)	-	-	-	35	166
Water Consumption (m3)	57,895	56,108	44,837	47,767	51,651
Annual variation_ Water Consumption (m3)	-	-1,787	-11,271	+2,930	+3,884
Annual variation_ Water Consumption (%)	-	-3	-20	6.5	8

The significant increase in Scope 3 emissions from 2021 to 2023 can be attributed to two main factors:

- Expansion of categories: In 2023, we added seven new categories to our Scope 3 reporting.
- Broadened product scope: We expanded our reporting to include all Hypertec products, compared to only 60% of purchases in the previous year.

Here's a breakdown of the impact of each category:

- Category 1 (Purchased Goods and Services): Increased from 140,745.32 in 2021 to 524,850.41 t CO_2-e in 2023, a 273% increase. This substantial rise is primarily due to the expansion of our product scope.
- New categories added in 2023:
    - Category 2 (Capital Goods): 2,762.88 t CO_2-e
    - Category 5 (Waste Generated in Operations): 5.47 t CO_2-e
    - Category 6 (Business Travel): 59.22 t CO_2-e
    - Category 7 (Employee Commuting): 59.22 t CO_2-e
    - Category 8 (Upstream Leased Assets): 1,883.65 t CO_2-e
    - Category 9 (Downstream Transportation and Distribution): 3,538.27 t CO_2-e
    - Category 11 (Use of Sold Products): 51,615.42 t CO_2-e

These new categories collectively added 59,924.13 t CO_2-e to our Scope 3 emissions.

- Changes in existing categories:
    - Category 3 (Fuel and Energy-related activities): Decreased from 21,231.69 in 2021 to 0 t CO_2-e in 2023. This significant reduction requires further investigation to ensure accurate reporting.
    - Category 4 (Upstream Transportation and Distribution): Decreased from 542.19 in 2021 to 102.14 t CO_2-e in 2023, likely due to improved logistics efficiency.

The most significant contributors to the increase were:

- Expansion of Category 1 reporting: +384,105.09t CO_2-e
- Addition of Category 11 (Use of Sold Products): +51,615.42 t CO_2-e
- Addition of Category 2 (Capital Goods): +2,762.88 t CO_2-e

These changes account for the majority of the 260% increase in Scope 3 emissions from 2021 to 2023. The expansion of our reporting scope provides a more comprehensive view of our value chain emissions, allowing for better-targeted reduction strategies in the future.

4.4.2. INTENSITY VALUE

Civil Year	2019	2020	2021	2022	2023
Energy -Physical Intensity	7.32E-01	6.30E-01	4.83E-01	5.29E-01	5.13E-01
Energy -Physical Intensity Variation (%)	-	-14	-23	10	-3
Energy -Economic Intensity	1.27E-04	1.15E-04	9.98E-05	1.33E-04	9.83E-05
Energy- Economic Intensity Variation (%)	-	-9.81	-13.21	33.20	-26.03
Gross Total Scope 1 – Physical Intensity	5.69E-03	3.91E-03	3.44E-03	4.20E-03	4.07E-03
Gross Total Scope 1 -Physical Intensity Variation (%)	-	-31	-12	22	-3
Gross Total Scope 1 – Economic Intensity	2.30E-05	7.9E-06	6.00E-06	5.1E-06	7.79E-07
Gross Total Scope 1 -Economic Intensity Variation (%)	-	-65	-24	-14	-84.73
Gross Total Scope 2 – Physical Intensity	4.7E-04	4.1E-04	3.5E-04	3.8E-04	2.45E-04
Gross Total Scope 2 -Physical Intensity Variation (%)	-	-10	-16	9	-35
Gross Total Scope 2 – Economic Intensity	1.88E-07	8.37E-08	6.06E-08	4.64E-08	4.70E-08
Gross Total Scope 2 -Economic Intensity Variation (%)	-	-55	-28	-23	1
Gross Total Scope 3 for Category 1, 3 & 4 – Physical Intensity	-	-	2.681	3.626	9.21E+00
Gross Total Scope 3 for Category 1, 3 & 4 - Physical Intensity Variation (%)	-	-	-	35	154
Gross Total Scope 3 for Category 1, 3 & 4 – Economic Intensity	-	-	4.643E-04	4.397E-04	1.76E-03
Gross Total Scope 3 for Category 1, 3 & 4 -Economic Intensity Variation (%)	-	-	-	-5.31	301
Water Consumption – Physical Intensity	9.50E-01	9.30E-01	7.40E-01	7.90E-01	8.14E-01
Water Consumption- Physical Intensity Variation (%)	-	-3.09	-20	6.5	3
Water Consumption – Economic Intensity	3.87E-04	1.9E-04	1.3E-04	9.6E-05	1.56E-04
Water Consumption-Economic Intensity Variation (%)	-	-52	-32	-25	62

5. HISTORY OF CHANGES

REV	DATE	MODIFICATIONS	CREATED BY	APPROVED BY
01	10/22/2024	Creation	Aziza B.	Ali Khosroshahi

6. ANNEX

6.1. Global Reporting Initiative Disclosure

GRI 302: Energy 2016

GRI	Description	Disclosed Information	Link
103-1.2 and 3	Material and Boundary Explanation of Energy, the Management approach	Integrated Management Systems Policy ISO 14001 Certificate CDP score Boma Best Certificate Gold Supply Chain Responsibility Energy Management Policy & Climate Change Policy Bulk Packaging Policy for PC Systems	https://ciaratech.com/epeat/ https://hypertec.com/sustainability/
302-1	Total fuel consumption within the organization from non-renewable sources, in joules or multiples, and including fuel types used.	Table of Annual Consumptions	https://ciaratech.com/epeat/ https://hypertec.com/sustainability/
302-2	Energy consumption outside of the organization, in joules or multiples	This metric does not apply to Hypertec Group's activities and energy consumption scope.	N/A
302-3	Energy intensity ratio for the organization.	Table of Intensity Value	https://ciaratech.com/epeat/ https://hypertec.com/sustainability/
302-4	Amount of reductions in energy consumption achieved as a direct result of conservation and efficiency initiatives, in joules or multiples.	Table of Annual Consumptions_3rd party audit and reports. Review section 4 of this report.	https://ciaratech.com/epeat/ https://hypertec.com/sustainability/
302-5	Reductions in energy requirements of sold products and services achieved during the reporting period, in joules or multiples.	Table of Energy requirements of sold products and services	https://ciaratech.com/epeat/ https://hypertec.com/sustainability/

GRI 303: Water and Effluents 2018

GRI Ref	Description	Disclosed Information	Link
303-1	Interactions with water as a shared resource	N/A	N/A
303-2	Description of water discharge standards	N/A	N/A
303-3	Sources and volumes of water withdrawn	N/A	N/A
303-4	Destinations and volumes of water discharged	N/A	N/A
303-5	The volume of water consumed	Table of Annual Consumptions	https://ciaratech.com/epeat/ https://hypertec.com/sustainability/

GRI 305: Emissions 2016

GRI Ref	Description	Disclosed Information	Link
103- 1, 2 and 3	Explanation of Emissions as a material topic and its Boundary, the management approach and its components, and the evaluation of the management approach.	Please review sections 2 and 3 of this report.	https://ciaratech.com/epeat/ https://hypertec.com/sustainability/
305-1	Gross direct (Scope 1) GHG emissions in metric tons of CO2 equivalent	Table of Consumptions; and Hypertec Group has assessed scopes 1 and 2. For Scope 3, categories 1, 2, 3, 4,5,6,7, 8,9, and 11 were reported.	https://ciaratech.com/epeat/ https://hypertec.com/sustainability/
305-2	Indirect (Scope 2) GHG emissions		
305-3	Gross other indirect (Scope 3) GHG emissions in metric tons of CO2 equivalent		
305-4	GHG emissions intensity ratio for the organization.	Table of Intensity Value	https://ciaratech.com/epeat/ https://hypertec.com/sustainability/
305-5	GHG emissions were reduced directly due to reduction initiatives in metric tons of CO2 equivalent.	Table of consumptions	https://ciaratech.com/epeat/ https://hypertec.com/sustainability/
305-6	Emissions of ozone-depleting substances (ODS)	N/A Our activities focus on assembling IT equipment, a process that does not require the use of ODS	N/A
305-7	Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions	N/A Our company does not generate significant NOx, SOx, or other air emissions, as our activities focus on IT equipment assembly, which does not involve combustion or industrial processes that release these pollutants. However, we ensure that our suppliers comply with air quality regulations and adopt best practices to minimize emissions	N/A

6.2. Emission Factors (Scope 3)

Category	Methodology	Element	Emission factor	Source
Category 1	Average-data method	NOTEBOOK, PC, Laptop	331 (kg CO2e/piece)	https://circularcomputing.com/news/carbon-footprint-laptop/
		Servers	945(kg CO2e/piece)	This factor is an estimate based on data from Boavizta: https://boavizta.org/
		BATTERY	120 (kg CO2e/piece)	Ecoinvent Database
		Cables	0,75 (kg CO2e/piece)	Ecoinvent Database
Category 2	Average spend-based method	Capex spent	0,5 (kg CO2e/$)	GHG Protocol : https://ghgprotocol.org/calculation-tools-and-guidance
Category 4 & 9	Spend-based method (transportation)	Sea Freight	2,71 (kg CO2e/$)	EPA : https://www.epa.gov/climateleadership/ghg-emission-factors-hub
		Air Freight	2,15 (kg CO2e/$)	EPA : https://www.epa.gov/climateleadership/ghg-emission-factors-hub
		Rail Transport	0,0252 (kg CO2e/$)	EPA : https://www.epa.gov/climateleadership/ghg-emission-factors-hub
		Truck Transport	1,42 (kg CO2e/$)	EPA : https://www.epa.gov/climateleadership/ghg-emission-factors-hub
Category 5	Waste-type-specific method	Wood	0,05 (kg CO2e/Kg)	EPA : https://www.epa.gov/climateleadership/ghg-emission-factors-hub
		Paper & Cardbord	0,04 (kg CO2e/Kg)	EPA : https://www.epa.gov/climateleadership/ghg-emission-factors-hub
		Toner	0,5 (kg CO2e/Kg)	EPA : https://www.epa.gov/climateleadership/ghg-emission-factors-hub
		Metal	0,02 (kg CO2e/Kg)	EPA : https://www.epa.gov/climateleadership/ghg-emission-factors-hub
		EE (Total of bins)	0,3 (kg CO2e/Kg)	EPA : https://www.epa.gov/climateleadership/ghg-emission-factors-hub
Category 6	Spend-based method	Air transport	0,15 (kg CO2e/km)	EPA : https://www.epa.gov/climateleadership/ghg-emission-factors-hub
Category 7	Average-data method	Public :0.045 (kg Co2/km)	0,045 (kg CO2e/km)	EPA : https://www.epa.gov/climateleadership/ghg-emission-factors-hub
		Personal: 0,180 (kg Co2/km)	0,180 (kg CO2e/km)	EPA : https://www.epa.gov/climateleadership/ghg-emission-factors-hub
Category 11	Direct use-phase emissions from products that directly consume energy (electricity) during use	Electricity during use	0,1376 (kg CO2e/kWh)	Estimated value based on the average electricity consumption in Canada and the United States, according to the average emission factors of the electricity grids in these regions

Third party review according to EPEAT program: several 4.8 criteria and 4.9.2.1 criterion

Trade/Brand: Ciara

Report Produced: First Quarter of 2024

Target Market: North America

March 5, 2025

Practitioner of the Life Cycle Assessment study
Ciara Technologies Inc
9300 Trans-Canada Highway, Saint-Laurent, Quebec, Canada
H4S 1K5

Third-party reviewer
Marie Bellemare Consulting
Consultant in LCA | EPD verifier
5687 5E Avenue, Montreal, Quebec, Canada

Table of Contents

Introduction

Marie Bellemare Consulting is an independent consultancy services with the mission of providing services in Life Cycle Assessment (LCA) verification and LCA for buildings and other infrastructures. For more than 15 years, Marie Bellemare is fully immersed applying ecodesign with LCA throughout different sectors: IT, packaging, furniture, transportation, agri-food, and construction. She has the experience and knowledge on the latest development of methods and approaches in the LCA: ISO standards related and LEED requirements associated to building LCA. Also, she is recognized as an Environmental Product Declaration (EPD) verifier by by CSA Group, as well as for Environdec.

Scope of the Mandate

Marie Bellemare Consulting was engaged to perform a third-party review a life cycle and carbon footprint assessment of eleven CIARA desktops/workstations and for the CIARAs' corporation activities according to the Electronic Product Environmental Assessment Tool (EPEAT) program. The LCA study is not meant to be comparative, but to contain twelve single product LCAs within a single project report (table 1).

Table 1. Products included in the LCA study

Device Model	Device Type
Astro PB62	Micro-PC
Astro PN64	
Horizon D11750	Desktop small-Form
Horizon D12170	
Horizon D12750	
Horizon T11170	Desktop mini-Tower
Horizon T11750	
Horizon T12170	
Horizon T12560	
Horizon T12750	
Kronos 540	High-performance workstations
Kronos 545	

Marie Bellemare reviewed the final version of the *LIFE CYCLE ASSESSMENT (LCA) 2023 AND CARBON FOOTPRINT ASSESSMENT REPORT: CIRCULAR ECONOMY PERSPECTIVE HYPERTECHNOLOGIE CIARA INC.* report dated January 6th, 2025 in accordance with:

a) Electronic Product Environmental Assessment Tool (EPEAT) program;
b) ISO 14040:2006 Environmental Management -- Life cycle assessment -- Principles and framework;

c) ISO 14044:2006 Environmental Management—Life Cycle Assessment—Requirements and Guidelines, Clause 6 Critical review;
d) Greenhouse Gas Protocol for the Corporate carbon footprint (using ISO 14040 & 14044 for the calculations) and The Greenhouse Gas Protocol – _Revised Edition for the reporting methodology.
e) Global Logistics Emissions Council (GLEC) Framework: for Logistic Emissions Accounting and Reporting version 3.1.
f) GHG Protocol Corporate Accounting and Reporting Standard (Revised Edition 2004
g) the quality and accuracy of additional environmental information; and
h) the quality and accuracy of the supporting information.

Marie Bellemare reviewed the final version of the *Critical Review Report for the : Environmental Data Disclosure Hypertec Group - Civil Year 2023 : DOC. #: RP_HYP_QA011_Rev.01* report dated March 5th, 2025 in accordance with:
a) Global Reporting Initiative - GRI 303: Water and Effluents 2018 (Revised Edition 2021).
b) Global Reporting Initiative - GRI 302: Energy 2016 (Revised Edition 2021).
c) Global Reporting Initiative - GRI 305: Emissions 2016 (Revised Edition 2021).
d) Global Reporting Initiative - GRI 3: Material Topics 2021

Within the present document, the following terminology is adopted:

- The term “shall” or “must” is used to indicate what is mandatory.
- The term “should” is used to indicate a recommendation, rather than a requirement.
- The term “may” or “can” is used to indicate an option that is permissible.

General Timeline for the Mandate

Target Dates for the Mandate	
Start date	January 6, 2025
End date	March 5, 2025

Critical Review Statement

According to the initial service offer, the scope of this review includes analyzing the LCA as defined per the EPEAT requirements, by an independent external expert. The life cycle and carbon footprint assessment of eleven CIARA desktops/workstations and for the CIARAs' corporation activities performed by the Quality Assurance & Sustainability CIARA team must be a cradle-to-grave based on ISO14040 /44. CIARA is seeking a letter confirming that the LCA study was performed in accordance with ISO14040 & ISO 14044, including the information below with their application for the ecolabel EPEAT:

- *Credentials of the LCA conductor*
- *Years in field*
- *Number of LCAs reviewed*
- *Number of LCAs conducted*
- *Contact information*
- *Statement that the LCA meets the requirements for the following EPEAT Criteria (4.8.1.1, 4.8.1.2, 4.8.2.1, 4.8.2.2 & 4.9.2.1)*
- *4.8.1.1 – Conduct Life Cycle Assessment (confirming to ISO 14040, ISO 14044)*
- *4.8.1.2 – Green House Gas Emissions/Product carbon footprint of raw material extraction through to product End of Life (using ISO 14040 & 14044)*
- *4.8.2.1 – Corporate carbon footprint (using ISO 14040 & 14044 for the calculations) and The Greenhouse Gas Protocol – _Revised Edition for the reporting methodology*
- *4.8.2.2 – Green House Gas Emissions from product transport (conforming to GLEC Framework version 3.1)*
- *4.9.2.1 – Corporate Reporting and Public Disclosure:*
    - *Water Use: Verification of water withdrawal and consumption data, in accordance with Global Reporting Initiative - GRI 303: Water and Effluents 2018 (Revised Edition 2021).*
    - *Energy Use: Verification of energy consumption across your operations, considering applicable frameworks, including Global Reporting Initiative - GRI 302: Energy 2016 (Revised Edition 2021).*
    - *Greenhouse Gas Emissions: Verification of Scope 1 and Scope 2 emissions, aligned with recognized methodologies such as the GHG Protocol Corporate Accounting and Reporting Standard (Revised Edition 2004) and the Global Reporting Initiative - GRI 305: Emissions 2016 (Revised Edition 2021).*

According to ISO 14044, the critical review process shall ensure that there are four phases in an LCA study:

> *• the methods used to carry out the LCA are consistent with this International Standard,*
> *• the methods used to carry out the LCA are scientifically and technically valid,*
> *• the data used are appropriate and reasonable in relation to the goal of the study,*
> *• the interpretations reflect the limitations identified and the goal of the study, and*
> *• the study report is transparent and consistent.*
>
> *The scope and type of critical review desired shall be defined in the scope phase of an LCA, and the decision on the type of critical review shall be recorded.*

After a detailed examination, in accordance with the limits of the scope of Marie Bellemare appointment, the third-party reviewer confirms that has come to her attention to suggest any data errors or relevant deviations from the requirements by the above-referenced EPEAT requirements and its supporting project report have been established with respect to:

- The underlying data collected as used for the LCA calculations,
- The way the LCA-based calculations have been carried out to comply with the calculation rules described in the reference EPEAT requirements.

The comments were provided by email, discussed by conference call and implemented after the comments were provided.
This review excludes an assessment of the Life Cycle Inventory (LCI) model and individual data set.

The third-party reviewer confirms that the company-specific data has been examined as regards quality, accuracy and plausibility. Also, that data evaluation includes coverage, precision, completeness, representativeness, consistency, reproducibility, sources and uncertainty.

The third-party reviewer confirms she has sufficient knowledge and experience of information technology (IT) products, the IT industry, relevant standards and the geographical area of the LCA to carry out this third-party reviewer.

The third-party reviewer confirms that she has been independent in her role as third-party reviewer in accordance with the requirements in with the ISO 14040-44 and EPEAT Program, i.e. She has not been involved in the execution of the LCA and have no conflicts of interest regarding this third-party reviewer.

The third-party reviewer confirms that LCA study was found to be in conformance with :

- ISO 14040:2006 Environmental Management -- Life cycle assessment -- Principles and framework;
- ISO 14044:2006 Environmental Management—Life Cycle Assessment—Requirements and Guidelines, Clause 6 Critical review;
- Greenhouse Gas Protocol for the Corporate carbon footprint (using ISO 14040 & 14044 for the calculations) and The Greenhouse Gas Protocol – _Revised Edition for the reporting methodology.
- Global Logistics Emissions Council (GLEC) Framework: for Logistic Emissions Accounting and Reporting version 3.1.
- GRI Standards 2021, the latest version of the Global Reporting Initiative’s sustainability reporting framework: for Global Reporting Initiative for Corporate Reporting and Public Disclosure

Title of the study	Critical Review Report for the *: LIFE CYCLE ASSESSMENT (LCA) 2023 AND CARBON FOOTPRINT ASSESSMENT REPORT: CIRCULAR ECONOMY PERSPECTIVE HYPERTECHNOLOGIE CIARA INC*
The commissioner of the LCA study and practitioner of the LCA study	Hypertec (CIARA) 9300 Trans Canada Highway Saint-Laurent, Quebec, Canada H4S 1K5
The version of the LCA report to which the critical review statement belongs	Version 01 report date 06.01.2025

Title of the study	Critical Review Report for the *: Environmental Data Disclosure Hypertec Group - Civil Year 2023 : DOC. #: RP_HYP_QA011_Rev.01*
The commissioner of the GRI reporting and practitioner of the GRI reporting	Hypertec (CIARA) 9300 Trans Canada Highway Saint-Laurent, Quebec, Canada H4S 1K5
The version of the GRI report to which the critical review statement belongs	Version 01 report date 05.03.2025
Name of third-party reviewer	Marie Bellemare
Name of organization and address	Marie Bellemare Consulting 5302 5E Ave, Montreal, Quebec, Canada H1Y 2S5
Date	March 5, 2025
Signature	

Critical Review Report

This review, with the following matrix, assures if the issue is described in the LCA project report and if it is produced according the requirements and guidelines in the applicable reference as ISO 14044 and EPEAT Program. See the Appendix: Review matrix.

According to the ISO 14044: *A critical review may be carried out by an internal or external expert. In such a case, an expert independent of the LCA shall perform the review. The review statement, comments of the practitioner and any response to recommendations made by the reviewer shall be included in the LCA report.*

Marie Bellemare Consulting
The option for low environmental solutions

Life Cycle Assessment (LCA) Review Statement		
Applicant Manufacturer Name and Address	CIARA 9300 Trans-Canada Highway Saint-Laurent (QC) Canada H4S 1K5	a Hypertec brand
Product Name	Astro PB62, Astro PN64, Horizon D11750, Horizon D12170, Horizon D12750, Horizon T11170, Horizon T11750, Horizon T12170, Horizon T12560, Horizon T12750, Kronos 540 and Kronos 545	
Year of reported manufacturer primary data	2023	
LCA Software and Version Number	OpenLCA v 2.2.0	
LCI database and version Number	Ecoinvent 3.8 database	
LCIA Methodology and Version Number	TRACI 2.1	
This life cycle assessment was conducted in accordance with ISO 14040-44 by	CIARA 9300 Trans-Canada Highway Saint-Laurent (QC) Canada H4S 1K5	a Hypertec brand
Third-Party Reviewer		
Name of reviewer	Marie Bellemare	
Organization	Marie Bellemare Consulting 5302, 5E Avenue Montreal (QC) Canada H1Y 2S5	
Years in LCA Field[1]	15	
No. of LCAs reviewed	14	
No. of LCAs conducted	15	

[1] This LCA field experience includes the carbon footprint and GHG assessment. LCA can be used to assess several environmental impacts such as water footprint, toxicity potential, acidification potential, and resource depletion, etc. (International Organization for Standardization [ISO], 2006). The carbon impacts of transportation was always included in the LCA reviewed or conducted by the Third-Party Reviewer. The LCA shall always include the transportation impacts: according to ISO 14001 (2015) the LCA is a *Consecutive and interlinked stages of a product (or service) system, from the raw material acquisition or generation from natural resources to final disposal. Life cycle stages include the acquisition of raw materials, design, production, transportation/delivery, use, end-of-life treatment, and final disposal*.

<table>
<tr><td colspan="2">Contact Information</td><td colspan="2">Email: mariebellemareconsulting@protonmail
Phone: 438.345.0200</td></tr>
<tr><th colspan="4">EPEAT Criteria</th></tr>
<tr><td rowspan="2">4.8.1.1 – Product life cycle assessment and public disclosure of analysis</td><td>Part A: This life cycle assessment was independently verified in accordance with ISO 14040/14044</td><td colspan="2">
Marie Bellemare
Third-Party /External reviewer
MB Consulting</td></tr>
<tr><td>Part B: Public disclosure of analysis</td><td colspan="2">The URL where manufacturer has publicly posted the summary of these LCA results (at a minimum Global Warming Potential, Water Consumption, and Primary Energy Demand) publicly available: https://ciaratech.com/epeat/</td></tr>
<tr><td rowspan="2">4.8.1.2 – Green House Gas Emissions/Product carbon footprint of raw material extraction through to product End of Life (using ISO 14040 & 14044)</td><td>Part A: Public disclosure of analysis</td><td colspan="2">
Marie Bellemare
Third-Party /External reviewer
MB Consulting</td></tr>
<tr><td>Part B: Public disclosure of analysis updated at least once every three years</td><td colspan="2">The URL where the manufacturer has publicly posted the summary of these LCAs, including the inputs used in the assessment; the total life cycle carbon footprint and the carbon footprint of the product's life cycle stages; and an explanation of uncertainty, addressed either through a statistical assessment or a publicly available disclaimer statement:
https://ciaratech.com/epeat/</td></tr>
<tr><td rowspan="2">4.8.2.1 – Corporate carbon footprint (using ISO 14040 & 14044 for the calculations) and The Greenhouse Gas Protocol for the reporting methodology</td><td>This CCF was independently verified in accordance with ISO 14040/14044 and The Greenhouse Gas Protocol</td><td colspan="2">
Marie Bellemare
Third-Party /External reviewer
MB Consulting</td></tr>
<tr><td colspan="3">The URL where manufacturer has publicly posted the summary of this CCF results at:
https://ciaratech.com/epeat/</td></tr>
<tr><td colspan="2" rowspan="4">4.8.2.2 – Green House Gas Emissions from product transport (conforming to GLEC Framework v3.1)</td><td colspan="2">
Third-party verification in accordance with the GLEC Framework.
Marie Bellemare
MB Consulting</td></tr>
<tr><td>Number of years of experience in assessing carbon impacts of transportation according the GLEC Framework</td><td>5</td></tr>
<tr><td>Number of studies reviewed on the carbon impacts of transportation according the GLEC Framework</td><td>4</td></tr>
<tr><td colspan="2">The URL where manufacturer has publicly posted the annual summary of results, transport supply chain GHG emission</td></tr>
</table>

<table>
<tr><td></td><td colspan="2">reduction goal, and progress report toward the goal: https://ciaratech.com/epeat/</td></tr>
<tr><td rowspan="3">4.9.2.1 – Corporate Reporting and Public Disclosure of Energy, Water and GHG emissions: (GRI) 302, 303, 305 and Material Topics 2021</td><td>Applicable scope of impact</td><td>Portion of the building located at 9300 Trans-Canada Highway, Saint-Laurent, Québec, Canada, H4S 1K5 where Ciara has significant responsibility for the design and manufacture of declared products conforming to the IEEE 1680.1:2018 standard. Consequently, this part of the building excludes portion rented to other companies.</td></tr>
<tr><td colspan="2">The URL where manufacturer has publicly posted the annual summary of results of water use, energy use, and greenhouse gas emissions: https://ciaratech.com/epeat/</td></tr>
<tr><td colspan="2">The environmental data for each GRI aspect is assured by an independent third party
Marie Bellemare
MB Consulting</td></tr>
</table>

Marie Bellemare

Recognized LCA and EPD verifier

Complies with the requirements of 8.2.2 of CAN/ CSA-ISO 14025 by :

- CSA Group
- International EPD

For EPEAT for the following criteria:

- 4.8.1.1 - Life cycle analysis, according to ISO 14040-44 standards
- 4.8.1.2 - Greenhouse gas emissions/ carbon footprint of the product, from extraction of raw materials to end of product life, according to ISO 14040-44 standards
- 4.8.2.1 - Company carbon footprint, according to ISO standards 14040-44
- 4.8.2.2 - Greenhouse gas emissions from the transport of products, in accordance with the framework GLEC
- 4.9.2.1 Corporate reporting and public disclosure

Logiciels

- Simapro
- OpenLCA
- Impact Estimator Building

Langue

- French (mother tongue)
- Spanish (advanced)
- English (intermediate-advanced)

Professional experience

Life Cycle Analysis Consultant

- **Marie Bellemare Consulting Service – Montreal, Canada (2019 – Present)**

  · Support for companies, architects and engineers in assessing and reducing the environmental impacts of their products, services and buildings.

  · Carrying out life cycle analyses (LCAs) and verifications of LCA reports and environmental product declarations (EPDs).

  · Examples of clients served: Englobe, Hypertec, Intertec, Tamperguard, Genyk, Papier Masson, Nature Fibre...

Analyst - Project Manager

- Vertima Inc. – Montreal/Québec, Canada (2018-2019)

  · Production and management of ACV, DEP and “Health Product Declaration” (HPD) for sustainable construction projects.

Ecodesign consultant

- Amesys Canada Inc. – Montreal, Canada (2012-2016)

  · Management and production of environmental deliverables for projects at Bombardier Transportation.

  · Data collection and analysis for LCA and EPD

  · Verification of chemical conformity of products.

  · Team training on ecodesign processes.

Education

- PhD student in industrial engineering, Polytechnique Montréal (2021 - planned for 2026)
- Master of Applied Sciences, Design & Complexity option, University of Montreal (2009-2011)
- Bachelor’s degree in industrial design, University of Montreal (2005-2009)

Areas of expertise

- Life cycle analysis (LCA): Carrying out LCAs according to ISO standards 14040 and 14044 for different types of products and services (construction, transportation, IT, packaging, etc.). Mastery of LCA methodologies for Zero-Carbon Buildings (CBDCa) and LEED v4.
- Ecodesign: Support for companies in integrating ecodesign and life cycle analysis principles from the design phase.
- Chemical compliance: Verification of the compliance of products and materials with environmental regulations (RoHS, REACH).
- Sustainable development: Advice and support for companies in the implementation of sustainable development strategies.

Review timeline:	January 6, 2025 to March 5, 2025
Independent Review of LCA study of:	LIFE CYCLE ASSESSMENT (LCA) 2023 AND CARBON FOOTPRINT ASSESSMENT REPORT: CIRCULAR ECONOMY PERSPECTIVE HYPERTECHNOLOGIE CIARA INC.
Reviewer:	Marie Bellemare

REQUIREMENTS AND REFERENCES						REVIEW		FINAL REVIEWER STATEMENT
Standards		4.8.1.1 – Conduct Life Cycle Assessment (confirming to ISO 14040, ISO 14044)	4.8.1.2 – Green House Gas Emissions/Product carbon footprint of raw material extraction through to product End of Life (using ISO 14040 & 14044 and ISO 14067)	4.8.2.1 – Corporate carbon footprint (using ISO 14040 & 14044 and GHG Protocol)	4.8.2.2 – Green House Gas Emissions from product transport (conforming to GLEC Framework).	REVIEWER COMMENTS (JUSTIFICATION FOR CHANGE)/PROPOSED CHANGE		CHECKED AND APPROVED
ISO 14044								
5,1	**General requirements and considerations**							
5.1.1	The type and format of the report shall be defined in the scope phase of the study. The results and conclusions of the LCA shall be completely and accurately reported without bias to the intended audience. The results, data, methods, assumptions and limitations shall be transparent and presented in sufficient detail to allow the reader to comprehend the complexities and trade-offs inherent in the LCA. The report shall also allow the results and interpretation to be used in a manner consistent with the goals of the study.	X	X	X		**REV 1:** General recommendations: * Adopt a standardized nomenclature for the life cycle stages (ISO 14040/14044 or GHG Protocol). * Clarify and justify methodological choices, assumptions, and exclusions. * Improve the data quality assessment by following a recognized scheme. Ex : like the" Data Quality Pedigree Matrix" from A. Edelen et W. Ingwersen, «Guidance on Data Quality Assessment for Life Cycle Inventory Data,» EPA, 2016.. * Provide a more in-depth interpretation of the LCA and LCIA results. * Ensure consistency between the different parts of the report and the objectives of the study. Additional points: * Consistency with the circular economy: *Clarify the company's position on product reuse and its consistency with the objective of a circular economy. Justify the exclusion of environmental benefits from recycling in the current system boundaries. Provide more information on the end-of-life packaging management strategy.* **REV 2:** Section Assumptions p13: The statement regarding resource allocation for unsold devices appears contradictory. It claims resource consumption cannot be allocated, yet allocates energy consumption (which is a resource). To address this (**mandatory**): *Acknowledge the inconsistency and provide a stronger justification for allocating energy consumption, specifically explaining why it was feasible while other resource consumption data was unavailable. *Explore alternative approaches like excluding unsold devices from the analysis or using proxy data based on similar devices or industry averages. * Revise the explanation for clarity and consistency, ensuring it accurately reflects the methodology used. Freshwater Calculation (**mandatory**): *Please clarify the scope of the freshwater consumption data. Is it solely for the freshwater used at the device assembly phase, or does it include other life cycle stages (e.g., manufacturing of components)? *Other comment: table 7 is located before table 6. see pp.11 and 12 **REV 3: Completed**	Please check the General Aspects in the report. Please review the Goal of the study; we have provided more explanation about it. Review our expalaination about Six impact categories **2.2 Intended application** We have added the reference for the service life period of our devices in Section **3.2, Functional Unit.** Please refer to Table 5, where we have updated the LCA stages and provided the rationale for excluding the C3-C4 and D phases Rev: 02 The revised assumption relating to unsold units: •For devices not sold in 2023, which fall outside the scope of this study, resource consumption (freshwater, natural gas, and electricity) was allocated, but this data is not presented in the report. Additionally, the provincial sales distribution, used to calculate the average transport distance to the client and determine the applicable energy mix, was unavailable, as these devices were not shipped to customers. Please refer to P23: The freshwater used in the process is sourced from tap water supplied by the municipal system in Quebec, which is used for human consumption and building operations.	X
5.1.2								
a)	modifications to the initial scope together with their justification;	X	X			**REV 1:** Objectives: Clearly describe the objectives of the LCA, specifying the reasons that motivate the company to carry out the study and the expected benefits. While the report mentions the desire to obtain EPEAT certification, it could be more explicit about the reasons that motivate the company to carry out this LCA and the expected benefits. made. The report references several ISO standards that are not relevant to this LCA, specifically ISO 14065, ISO 14064, and ISO 14025. These should be removed. * **ISO 14065** pertains to the validation and verification of greenhouse gases, which is not the purpose of this LCA. * **ISO 14064** provides guidance for quantifying and reporting GHG emissions at the organizational level. While relevant to the corporate carbon footprint, EPEAT specifically references the GHG Protocol for this purpose. Therefore, focusing on demonstrating compliance with the GHG Protocol is sufficient. * **ISO 14025** relates to environmental labeling, which is not within the scope of this LCA. **Regarding ISO 14067:** While ISO 14067 (carbon footprint of products) is relevant to the product carbon footprint aspect of this LCA, the report should clearly distinguish between the corporate carbon footprint (addressed by the GHG Protocol) and the product carbon footprint (addressed by ISO 14067). **Key Recommendations:** * Remove all references to ISO 14065, ISO 14064, and ISO 14025. * Clearly indicate that the corporate carbon footprint was calculated in accordance with the GHG Protocol. * Clarify the use of ISO 14067 and ensure its application is consistent with EPEAT requirements." **REV 2: Completed**	We have reformulated: GENERAL ASPECTS and Goal of the study	X
b)	system boundary, including – type of inputs and outputs of the system as elementary flows, – decision criteria;	X	X			**REV 1:** Standardized nomenclature: Use a standardized nomenclature for the life cycle stages. Possible confusion on the life cycle stages included in the analysis (non-standardized nomenclature) : To present the data according to modules A1 to C4 as per EN 15804+A2. In this case, it is necessary to follow it in a consistent manner: C2 transport, C3 waste processing, and C4 disposal, and explicitly refer to the fact that you are following the steps defined according to EN 15804+A2. **Please see additional detail at line 36** **REV 2: Please see additional detail at line 36** **REV 3:** **Completed**	Please refer to Table 5 in the section 3.7.1 , where we have updated the LCA stages and provid	X
c)	description of the unit processes, including – decision about allocation;	X	X			**REV 1:** See related comments **REV 2: See related comments - line 8** **REV 3: Completed**		X
d)	data, including – decision about data, – details about individual data, and – data quality requirements;	X	X			**REV 1:** The data quality assessment should include: **see line 49 for further explanations** * A more detailed evaluation of the quality of both primary and secondary data used in the study. * A clear declaration of the share of specific data contributing to the results. * Addressing any deviations from data quality requirements and justifying the use of any proxy data. To further enhance the assessment, consider using a recognized data quality assessment scheme, such as the "Data Quality Pedigree Matrix" from A. Edelen and W. Ingwersen's "Guidance on Data Quality Assessment for Life Cycle Inventory Data" (EPA, 2016). **REV 2: Completed**		X
e)	choice of impact categories and category indicators.	X				**REV 1:** * **Justify the selection of impact categories**:The report uses the TRACI 2.1 method, which includes six impact categories. However, it doesn't explicitly justify why these specific categories were chosen as the most relevant for the study. It should explain the reasoning behind the selection, considering the product's characteristics and life cycle. **See line 53 for further explanations** * **Consider additional impact categories**: The report could be strengthened by including other impact categories relevant to electronic products, such as: * Abiotic resource depletion (to account for the use of minerals and metals). * Human toxicity (to account for the potential impacts of toxic substances on human health). * Ecotoxicity (to account for the potential impacts of toxic substances on ecosystems). * Land use and land occupation (to account for the impacts related to land use for raw material extraction, manufacturing, and waste disposal). * **Reference the guide for freshwater consumption**: The report mentions using a reference guide for selecting inventory flows for freshwater consumption but doesn't specify which guide. It should provide a clear reference to ensure traceability and transparency. **REV 2: Missing the reference and justification about water footprint (mandatory).** **REV 3: Completed**	We have provided an explanation for our selection of the six categories.	X
5.1.3	A graphical presentation of LCI results and LCIA results as part of the report may be useful, but it should be considered that this invites implicit comparisons and conclusions.	X	X			Compliant		X
5,2	**Additional requirements and guidance for third-party reports**							
	When results of the LCA are to be communicated to any third party (i.e. interested party other than the commissioner or the practitioner of the study), regardless of the form of communication, a third-party report shall be prepared. The third-party report can be based on study documentation that contains confidential information that may not be included in the third-party report. The third-party report constitutes a reference document, and shall be made available to any third party to whom the communication is made. The third-party report shall cover the following aspects :							

		Standards	4.8.1.1 – Conduct Life Cycle Assessment (confirming to ISO 14040, ISO 14044)	4.8.1.2 – Green House Gas Emissions/Product carbon footprint of raw material extraction through to product End of Life (using ISO 14040 & 14044 and ISO 14067)	4.8.2.1 – Corporate carbon footprint (using ISO 14040 & 14044 and GHG Protocol)	4.8.2.2 – Green House Gas Emissions from product transport (conforming to GLEC Framework).	REVIEWER COMMENTS (JUSTIFICATION FOR CHANGE)/PROPOSED CHANGE		CHECKED AND APPROVED
a)		General aspects:							
	1)	LCA commissioner, practitioner of LCA (internal or external);		X			Compliant		X
	2)	date of report;		X			Compliant		X
	3)	statement that the study has been conducted according to the requirements of this International Standard.		X			Compliant		X
		4.8.1 Life cycle assessment and product carbon footprint : b) If claiming the additional point in accordance with Part B, demonstration of public disclosure (e.g., URL or other evidence of publication to peer-reviewed LCA journal, national database, and/or to the manufacturer's website).		X			Compliant		X
b)		Goal of the study:							
	1)	reasons for carrying out the study;		X			**REV 1:** See related comments **REV 2: Completed**		X
	2)	its intended applications;		X			**REV 1:** See related comments **REV 2: Completed**		X
	3)	the target audiences;		X			Compliant		X
	4)	statement as to whether the study intends to support comparative assertions intended to be disclosed to the public.		X			Compliant		X
c)		Scope of the study:							
	1)	function, including							
		i) statement of performance characteristics, and		X			Compliant		X
		ii) any omission of additional functions in comparisons;		X			Compliant		X
	2)	functional unit, including							
		i) consistency with goal and scope,		X			Compliant		X
		ii) definition,		X			**REV 1:** See related comments **REV 2: Completed**		X
		iii) result of performance measurement;		X			**REV 1:** See related comments **REV 2: Completed**		X
	3)	system boundary, including							
		i) omissions of life cycle stages, processes or data needs,		X			**REV 1:** The nomenclature used (A1 + A2 - Pre-manufacturing, A3 - Manufacturing and packaging, etc.) is not standardized and can be confusing. Lack of clarity and standardization: * Non-standardized nomenclature: The nomenclature used for the life cycle stages does not conform to ISO 14040/14044 or other recognized methodologies such as the GHG Protocol or EN 15804 or ISO 21930. Proposing the use of the EN 15804 or ISO 21930 standard is a good practice that can improve the quality and credibility of the LCA report. By aligning with industry best practices and adopting standardized nomenclature, the company demonstrates its commitment to transparency and methodological rigor, but it is must be follow completly. * Possible confusion: The use of terms such as "Pre-manufacturing" and "Manufacturing and packaging" may create confusion about the specific life cycle stages that are included in each category. Lack of completeness: * Omission of potential stages: The note does not mention certain stages that could be relevant to the LCA of electronic devices, such as the extraction of raw materials, the production of components, and the treatment of waste at end-of-life. * Lack of clear definition of system boundaries: The note does not clearly define the system boundaries for each life cycle stage, which can make it difficult to understand the analysis. Recommendations: * Adopt a standardized nomenclature: Use a recognized nomenclature for the life cycle stages, such as that of ISO 14040/14044 * Describe each stage accurately: Provide a detailed description of each life cycle stage, specifying the activities and processes included. * Clearly define system boundaries: Specify the system boundaries for each life cycle stage, indicating what is included and what is excluded from the analysis. * Justify methodological choices: Explain the reasons for the choice of methodology and nomenclature used, and justify them in relation to the objectives of the study. Example of a more standardized nomenclature (based on ISO 14040/14044): * A1-A3: Raw material extraction and processing * A4: Transport * A5-A6: Manufacturing * B1-B7: Use * C1-C4: End-of-life (collection, transport, waste processing) * D: Benefits and burdens beyond the system boundaries **REV 2:** Table 6: Life cycle stages C3 and C4 are misspelled (**mandatory**): C3 is "Waste Processing" and C4 is "Disposal" Please clarify (**mandatory**): The ecoinvent process 'treatment of used desktop computer, mechanical treatment' appears incorrectly applied. This process represents C3 - Waste Processing, not C1 - Disassembly. As the LCA excludes recycling, C3 is not relevant. If the end-of-life assessment only considers transport to a treatment facility, then only C2 - Transport should be included. Please clarify the scope of the end-of-life stage and correct the ecoinvent process application. C1 means : De-installation from point of use. **REV 3:** Missing explanation about the end-of-life assumption C1. Please add futher explanation about this process, because C1 means "De-installation from point of use". Also, clarify table 5.	We have updated the LCA stages in Table 05 and provided details about the included and excluded processes in sections 3.7.2 and 3.7.3. Rev.02: The nomination has been corrected: C3 is "Waste Processing" and C4 is "Disposal." Please refer to page 12.	X
		ii) quantification of energy and material inputs and outputs, and		X			**REV 1:** Points to improve: * Justification of primary data: The report could provide more information on how the primary data were collected and measured, specifying the methods and tools used. The report states that the usage time of the device is 6 hours per day. This assumption appears low and needs further justification. Typically, for electronic products, the usage time should consider the total time spent in various modes of operation. The following modes should be considered (Ref. PCR ELECTRONIC AND ELECTRIC EQUIPMENT, AND ELECTRONIC COMPONENTS (NONCONSTRUCTION) PCR 2024:06 VERSION 1.0.1, 2024-12-09 by EPD International) * Off mode: The product is connected to the main power source but is switched off. * Standby mode: The product is connected to the main power source and is switched on but is not performing its main functions. * Active mode: The product is switched on and performing its main function(s). * Sleep mode: The product is in a low-power state from which it can be awakened to perform its main functions more rapidly than from the off mode. * Hibernate mode: The product is in a very low power state in which all data relating to the current state of operation is stored in a persistent memory and from which it can be awakened to perform its main functions. * Other modes: Any other relevant mode of operation. The sum of the time the device spends in each of these modes should equal 24 hours. The report should provide a breakdown of the time spent in each mode and justify the assumptions made for each mode. **REV 2: Completed**		X
		iii) assumptions about electricity production;		X			REV 1: See related comments **REV 2: Completed**		X
	4)	cut-off criteria for initial inclusion of inputs and output, including							

	Standards	4.8.1.1 – Conduct Life Cycle Assessment (confirming to ISO 14040, ISO 14044)	4.8.1.2 – Green House Gas Emissions/Product carbon footprint of raw material extraction through to product End of Life (using ISO 14040 & 14044 and ISO 14067)	4.8.2.1 – Corporate carbon footprint (using ISO 14040 & 14044 and GHG Protocol)	4.8.2.2 – Green House Gas Emissions from product transport (conforming to GLEC Framework).	REVIEWER COMMENTS (JUSTIFICATION FOR CHANGE)/PROPOSED CHANGE		CHECKED AND APPROVED
	i) description of cut-off criteria and assumptions,		X			**REV 1:** Cut-off criteria: Justify the choice of cut-off criteria used for the inclusion of processes in the LCA. The report should justify why the environmental benefits of recycling are not included in the current system boundaries. It could mention the difficulties of quantifying these benefits or the uncertainties related to the end-of-life of the products. Clarify the processes excluded from the analysis by providing a complete list of excluded elements and justifying their exclusion. Provide a more detailed justification for the exclusion of waste destined for landfill, specifying the types of waste involved and their potential environmental impact. Points to improve: * Justification of assumptions: Some assumptions are not sufficiently justified. For example, the assumption that the resource consumption for the assembly of devices not sold in 2023 is equal to that of other devices in the same range deserves a more detailed explanation. * Impact of assumptions: The report does not discuss the potential impact of assumptions on the LCA results. It would be relevant to assess the sensitivity of the results to the various assumptions made. * Assumptions about recycling: The assumption that waste destined for recycling has no environmental impact because it has an economic value on-site is questionable. Recycling has an environmental impact, even if it generates revenue. * Assumption about the copolymer: The assumption concerning the adjustment of the percentage of acrylonitrile-butadiene-styrene copolymer to match the total weight of the device in stage A1 is not clear and deserves to be explained in more detail. Recommendations: * Justify all assumptions in more detail, explaining the reasons behind them and the sources of information used. * Discuss the potential impact of assumptions on the LCA results, performing sensitivity analyses if necessary. * Review the assumption about waste recycling and take into account the environmental impact of recycling, even if it generates revenue. * Clarify the assumption about acrylonitrile-butadiene-styrene copolymer and explain the reasons for the percentage adjustment. * Ensure that all assumptions are documented in a transparent and traceable manner. Points to improve: * Justification of cut-off criteria: The report could justify the choice of the 1% threshold for the cut-off criteria, explaining why this threshold was considered appropriate for the study. **REV 2: Completed**	We have provided additional explanations regarding our assumptions in section 3.7.4. Regarding the cut-off criteria (3.7.5), we have explained the rationale behind our threshold selection.	X
	ii) effect of selection on results,		X					X
	iii) inclusion of mass, energy and environmental cut-off criteria.		X					X
d)	Life cycle inventory analysis:							
1)	data collection procedures;		X			**REV 1:** * Data collection: Describe the data collection method used, specifying the data sources, collection tools, and measurement techniques used. * Insufficient justification for the choice of the ecoinvent 3.7 database. * Insufficient justification of the assumptions made for the assembly of devices not sold in 2023. **REV 2: Completed**	Please refer to the description in Table 09.	X
2)	qualitative and quantitative description of unit processes;		X			**REV 1:** There is an inconsistency between Table 7 and Table 8 regarding the inclusion of train transport. * Table 7, which lists the inputs and outputs included in the system boundary, mentions "Transport of components and materials by train" within the A2 life cycle stage (Transport of components to assembly site). * However, Table 8, which provides a detailed description of the unit processes used to model the life cycle of the Astro PB62, does not include any process related to train transport. This inconsistency raises concerns about the completeness and accuracy of the inventory analysis. If train transport is indeed involved in the transportation of components to the assembly site, it should be included in the unit process description and accounted for in the impact assessment. Therefore, it is recommended to: * Review the data collection and modeling process to ensure that all relevant transport modes are accurately represented. * If train transport is indeed involved, include it in the unit process description in Table 8 and update the impact assessment calculations accordingly. * If train transport is not relevant, remove it from the list of inputs and outputs in Table 7. **REV 2: Completed**	Please refer to the explanation in Section 4 regarding the transportation mode.	X
3)	sources of published literature;		X			**REV 1:** Support the statement about the standard lifespan of desktop computers with data or references : see previous related comment The report states that the service life of the devices is estimated to be five years, based on the current industry standard for desktop computers. To support this claim, it would be beneficial to provide a specific and verifiable reference. This could include: Industry data: Studies or reports from the IT industry that indicate the average lifespan of desktop computers. For example, data from organizations like Gartner, IDC, or Forrester. Standards or regulations: Standards or regulations that specify a minimum lifespan for computer equipment. Market surveys or analyses: Surveys or market analyses that document the typical usage time of desktop computers by consumers or businesses. Internal company data: If the company has internal data on the lifespan of its own devices (e.g., warranty or maintenance data), this data could be used to support the five-year lifespan claim. The reference should be: Precise: It should clearly state the average lifespan of desktop computers or a recommended minimum lifespan. Verifiable: It should come from a reliable and accessible source, such as a scientific publication, a report from a recognized organization, or an official standard. Relevant: It should be relevant to the type of desktop computer studied in the LCA. **REV 2: Completed**	Please refer to Section 3.2, Functional Unit, where we have added the reference: https://hyper	X
4)	calculation procedures;		X			**REV 1:** * Detail the calculations performed to quantify the flows of materials and energy, specifying the formulas, data sources, and assumptions. * Justification of assumptions: Justify the assumptions made for the assembly of unsold devices, the choice of the ecoinvent database, energy consumption, and transport. * Lack of details on the method for calculating the average transport distance. **REV 2: Completed**	Regarding the energy consumption of device use, please refer to the reference mentioned in Section 4.4.1: https://www.energystar.gov/sites/default/files/asset/document/ENERGY%20STAR%20Computers%20Version%208.0%20Final%20Specification%20Rev.%20July%202022.pdf Please refer to Section 4.4.2 for the average distance calculation method.	X
5)	validation of data, including							
	i) data quality assessment, and		X			**REV 1:** Data quality assessment: Describe the quality of the data used, specifying the criteria used and the results obtained. Points to improve: * Precision, consistency and alignment: The report does not explicitly address the precision, consistency and alignment of the data with the system boundaries, which are important aspects of data quality assessment according to ISO 14044. * Justification of completeness: Although the report mentions that all processes exceeding the cut-off threshold were included, it could provide a more detailed justification of this threshold and its impact on the completeness of the analysis. * More thorough assessment: The report could provide a more thorough assessment of data quality, using more quantitative methods or more precise quality indicators. * Assessment scheme: The report could use a recognized data quality assessment scheme, such as the one proposed in the UN guidelines for LCA database development or the PEF (Product Environmental Footprint) method. Recommendations: * Explicitly address the precision, consistency and alignment of the data with the system boundaries. * Further justify the completeness of the analysis and the choice of the cut-off threshold. * Consider a more thorough assessment of data quality, using more quantitative methods or more precise quality indicators. * Use a recognized data quality assessment scheme to structure the assessment and improve transparency. Ex : like the" Data Quality Pedigree Matrix" from A. Edelen et W. Ingwersen, «Guidance on Data Quality Assessment for Life Cycle Inventory Data,» EPA, 2016. **REV 2:** The recommendation to use more recent and specific primary data in future assessments is appreciated. However, the representativeness evaluation lacks clarity on the specific primary data used in this LCA. Please provide more details on this recommendation (**mandatory**). Also for a better understanfding (**optional**): •Types of primary data collected: Specify the exact types of primary data collected for this LCA (e.g., energy consumption data from the assembly facility, packaging material specifications). •Data collection methods: Describe the methods used to collect this primary data (e.g., measurements, monitoring, supplier questionnaires). •Data limitations: Explain any limitations associated with the primary data used (e.g., data gaps, measurement uncertainties). This clarification will help to better understand the data foundation of the LCA and assess the validity of the recommendation for future studies. **REV 3: mandatory comments completed**	Rev.02: We have reformulated the sentence to this: In this assessment, the data shows a good balance of representativeness and reliability. However, there are some limitations related to the age of the secondary data, particularly in terms of its temporal and technological relevance, which may affect the accuracy of the results. For future assessments, incorporating more up-to-date and specific data would enhance the robustness of the LCA. for types of primary data please refer to table09, P.18	X

	Standards	4.8.1.1 – Conduct Life Cycle Assessment (confirming to ISO 14040, ISO 14044)	4.8.1.2 – Green House Gas Emissions/Product carbon footprint of raw material extraction through to product End of Life (using ISO 14040 & 14044 and ISO 14067)	4.8.2.1 – Corporate carbon footprint (using ISO 14040 & 14044 and GHG Protocol)	4.8.2.2 – Green House Gas Emissions from product transport (conforming to GLEC Framework).	REVIEWER COMMENTS (JUSTIFICATION FOR CHANGE)/PROPOSED CHANGE		CHECKED AND APPROVED
	ii) treatment of missing data;		X			**REV 1:** See related comments **REV 2: Completed**		X
6)	sensitivity analysis for refining the system boundary;		X			**REV 1:** Points to improve: * Justification of parameters: The report could justify the choice of the two key parameters for the sensitivity assessment, explaining why these parameters were considered the most important. * Choice of variations: The report could justify the choice of a 30% increase in the mass of components and double the electricity consumption for the sensitivity assessment. * Presentation of results: Although the report mentions that the results of the sensitivity assessment are presented in section 5.5, it could provide a brief summary of the main results in this section. * Justification of the allocation method: The report could justify the choice of the allocation method based on assembly time, explaining why this method was considered the most appropriate. Recommendations: * Justify the choice of key parameters for the sensitivity assessment. * Justify the choice of variations used for the sensitivity assessment. * Provide a brief summary of the main results of the sensitivity assessment in this section. * Justify the choice of the allocation method based on assembly time. * Carefully proofread the section to correct any grammar and style errors. **REV 2: Completed**	Please refer to the explanation in Section 4.6. Regarding allocation method, please refer to the section 4.7 Provide a brief summary of the main results of the sensitivity assessment in section 5.5.	X
7)	allocation principles and procedures, including							
	i) documentation and justification of allocation procedures, and		X			**REV 1:** Table 11. aims to illustrate the allocation of assembly time for the consumption of resources (water, electricity, natural gas) according to the type of device. For this table to be complete and informative, it is essential to include the quantity of each model produced. Here's why this information is important: * Production representation: The quantity of each model produced provides a better understanding of the distribution of production and the relative importance of each type of device. * Calculation of consumption per device: The quantity of each model is necessary to calculate the average resource consumption per device, which is an important indicator for the LCA. * Transparency and traceability: The inclusion of this data reinforces the transparency of the analysis and allows for tracing the calculations performed. **Recommendation:** It is strongly recommended to add a column to Table 11 to indicate the quantity of each device model produced in 2023. This will complete the information and make the analysis more transparent and understandable. *Note: If this information is sensitive, provide the details of the quantities per model directly to the verifier (in a separate document) and indicate that for confidentiality reasons this information is not provided in the report, but has been verified by a third party.* **REV 2:** Please share with the verifier the quantity of each device model produced in 2023 : **mandatory**	As this data is sensitive, we are unable to share it publicly. The details have already been provided to you in the Excel file. Rev.02 The produced quantity has been shared with the verifier.	X
	ii) uniform application of allocation procedures.		X			**REV 1:** To be assessed later **REV 2: see line 8** **REV 3: Completed**		X
e)	Life cycle impact assessment, where applicable:							
1)	the LCIA procedures, calculations and results of the study;		X			**REV 1: Life cycle impact assessment (LCIA):** * Method: Describe the impact assessment method used (TRACI 2.1) and justify its choice. * Impact categories: Justify the choice of impact categories considered in the LCIA. The report mentions the inclusion of six environmental impact indicators and one inventory indicator, but it could provide more information on these indicators and their relevance to the study. * Reference guide: Reference the guide used for the selection of inventory flows for freshwater consumption. * Interpretation of results: Analyze the contributions of the different life cycle stages to each impact category and identify environmental hotspots. * Uncertainty assessment: Assess the potential impact of uncertainties related to data, assumptions, and methodological choices on the results of the LCIA. * Consistency check: Check the consistency between the results of the LCIA and the results of the LCI. **Points to improve:** * Justification of impact categories: The report could justify the choice of the six impact categories, explaining why these categories were considered the most relevant to the study. * TRACI 2.1 method: The report could provide more information on the TRACI 2.1 method, explaining its principles and limitations. * Reference guide: The report mentions that the inventory flows for freshwater consumption are based on a reference guide, but does not specify which guide it is. It would be relevant to reference this guide to ensure the traceability of the method. * Additional indicators: The report could consider including other relevant environmental indicators, such as abiotic resource depletion or human toxicity. **Recommendations:** * Justify the choice of the six impact categories. * Provide more information on the TRACI 2.1 method. * Reference the guide used for the selection of inventory flows for freshwater consumption. * Consider including other relevant environmental indicators. **REV 2:** Missing the impact assesment method for water footprint and reference and justification (**mandatory**).	Rev.02: We have reformulated the sentence to this: In this assessment, the data shows a good balance of representativeness and reliability. However, there are some limitations related to the age of the secondary data, particularly in terms of its temporal and technological relevance, which may affect the accuracy of the results. For future assessments, incorporating more up-to-date and specific data would enhance the robustness of the LCA. for types of primary data please refer to table09, P.18	X
2)	limitations of the LCIA results relative to the defined goal and scope of the LCA;		X			**REV 1: Sections 5.2 and 5.3 – LCIA Results and GWP Results** These sections should be revised to: * **Interpret the LCIA and GWP results more thoroughly:** This includes: * Analyzing the contribution of each life cycle stage to each impact category, including GWP. * Identifying environmental hotspots for each device model. * Analyzing the differences in impact between models, considering their technical characteristics and use. * Discussing the reasons for varying contributions between life cycle stages. * **Conduct an uncertainty assessment**: This should include: * Discussing the sources of uncertainty (data, assumptions, and methodological choices). * Evaluating their potential impact on the LCIA and GWP results. * **Normalize the LCIA and GWP results** against a common functional unit (e.g., per year of use) to facilitate comparison between models. * **Present aggregate LCIA and GWP results** for all device models to provide an overview of the product range's environmental impact. * **Verify the consistency** between the LCIA results and the LCI results. **Sections 5.4 to 5.8** These sections should be revised to: * **Expand the discussion on the limitations of the study** in Section 5.6, including the potential impact of these limitations on the results and any other limitations not already mentioned (e.g., uncertainties in primary data). * **Provide a more detailed justification** of how the LCIA results meet the goal and scope of the study in Section 5.7. * **Remove references to ISO 14025 and ISO 14064** in section 5.7, as these standards are not directly relevant to this LCA. * **Analyze in more detail the contributions of elementary flows** to each impact category in Section 5.8, explaining the reasons for these contributions and their implications. * **Integrate the sensitivity assessment in Section 5.5** into a more comprehensive uncertainty analysis. **REV 2: Completed**		X
3)	the relationship of LCIA results to the defined goal and scope, see 4.2;		X					X
4)	the relationship of the LCIA results to the LCI results, see 4.4;		X				Please refer to sections: 5.4.6 regarding the limitations of study We have added explanation in the sentivitivity section 5.5 The eferences to ISO 14025 and ISO 14064 in section 5.7, are removed	X
5)	impact categories and category indicators considered, including a rationale for their selection and a reference to their source;		X			**REV 1:** See related comments **REV 2:** See related comments **REV 3: Completed**		X
6)	descriptions of or reference to all characterization models, characterization factors and methods used, including all assumptions and limitations;		X			**REV 1:** See related comments **REV 2:** See related comments **REV 3: Completed**		X

	Standards	4.8.1.1 – Conduct Life Cycle Assessment (confirming to ISO 14040, ISO 14044)	4.8.1.2 – Green House Gas Emissions/Product carbon footprint of raw material extraction through to product End of Life (using ISO 14040 & 14044 and ISO 14067)	4.8.2.1 – Corporate carbon footprint (using ISO 14040 & 14044 and GHG Protocol)	4.8.2.2 – Green House Gas Emissions from product transport (conforming to GLEC Framework).	REVIEWER COMMENTS (JUSTIFICATION FOR CHANGE)/PROPOSED CHANGE		CHECKED AND APPROVED
7)	descriptions of or reference to all value-choices used in relation to impact categories, characterization models, characterization factors, normalization, grouping, weighting and, elsewhere in the LCIA, a justification for their use and their influence on the results, conclusions and recommendations;		X			**REV 1:** See related comments **REV 2:** See related comments **REV 3: Completed**		X
8)	a statement that the LCIA results are relative expressions and do not predict impacts on category endpoints, the exceeding of thresholds, safety margins or risks. and, when included as a part of the LCA, also:		X			**REV 1**: Missing : to be added **REV 2: Completed**		X
	i) a description and justification of the definition and description of any new impact categories, category indicators or characterization models used for the LCIA,		X			N/A		N/A
	ii) a statement and justification of any grouping of the impact categories,		X			N/A		N/A
	iii) any further procedures that transform the indicator results and a justification of the selected references, weighting factors, etc.,		X			N/A		N/A
	iv) any analysis of the indicator results, for example sensitivity and uncertainty analysis or the use of environmental data, including any implication for the results, and		X			**REV 1: Points to improve:** * Justification of parameters: The report could more clearly justify the choice of the two key parameters for the sensitivity assessment, explaining why these parameters were considered the most important or the most uncertain. * Choice of variations: The report could justify the choice of a 30% increase in the mass of components and a doubling of electricity consumption for the sensitivity assessment. It would be relevant to explain why these variations were considered representative of possible uncertainties or variations. * Analysis of results: The analysis of the results of the sensitivity assessment could be more in-depth. The report could discuss the implications of the observed variations for each impact category and for the overall interpretation of the LCA results. * Uncertainty assessment: The sensitivity assessment could be integrated into a more comprehensive uncertainty analysis, which would take into account other sources of uncertainty (data, assumptions, methodological choices) and would allow quantifying the overall uncertainty of the LCA results. **Mandatory requirements according to ISO 14040/14044 and 14067:** * Uncertainty assessment: ISO 14040/14044 standards require an assessment of the uncertainties associated with the LCA results. The sensitivity assessment can be considered as part of this uncertainty assessment, but it does not completely replace it. * Interpretation of results: ISO 14040/14044 and 14067 standards require an interpretation of the LCA results, including an analysis of uncertainties and their potential impact on the study's conclusions. **Recommendations:** * More clearly justify the choice of key parameters for the sensitivity assessment. * Justify the choice of variations used for the sensitivity assessment. * Deepen the analysis of the results of the sensitivity assessment. * Integrate the sensitivity assessment into a more comprehensive uncertainty analysis. * Carefully proofread the section to correct any grammar and style errors. **REV 2:** Optional (**not mandatory**): Here are some recommendations to improve the sensitivity study and deepen the analysis of the impact of materials 1. Expand the range of variation: • Mass increase: Test larger mass increases (e.g., 50% or 100%) to observe the evolution of environmental impacts and identify possible critical thresholds. • Mass decrease: Also analyze the impact of decreasing the mass of components (e.g., 10%, 20%, 30%) to identify the potential for reducing the environmental footprint. 2. Vary the types of materials: • Compare different materials: Integrate in the sensitivity study the comparison of different types of materials to identify the most sustainable options. 3. Deepen the transport analysis: • Transport distances: Vary the transport distances of materials and components to assess the influence of the origin of materials on the environmental footprint. • Transport modes: Compare the impact of different transport modes (plane, boat, train, truck) on GHG emissions and energy consumption. • Logistics optimization: Study the impact of different logistics optimization strategies (bulk shipments, optimized routes, etc.) on the environmental footprint. 4. Consider the impact of end-of-life: • Recyclability: Integrate into the sensitivity study the impact of the recyclability of materials on the overall environmental footprint. • Reuse and revalorization: Analyze the impact of the reuse and revalorization of end-of-life components.	Thank you for the recommendations. We will address them in the next report.	X
	v) data and indicator results reached prior to any normalization, grouping or weighting shall be made available together with the normalized, grouped or weighted results.		X			**REV 1:** See related comments **REV 2: Completed**		X
f)	Life cycle interpretation:							
1)	the results;		X			**REV 1:** This mention in section 5.4.5 is not sufficient to fully meet the requirements for interpreting results according to ISO 14040/14044 and 14067. Although it identifies the main stages contributing to the Global Warming Potential (GWP) for each type of device, it lacks an in-depth analysis of why these stages have a greater impact and the differences between models. **Here's what's missing to meet the standards' requirements:** * Analysis of causes: Explain why component manufacturing has a greater impact for some models, and why device use is more significant for others. * Discussion of differences: Analyze the differences in impact between models and device types, taking into account their technical characteristics, composition, and use. * Link with other impact categories: Relate the GWP results to the results of other impact categories to identify potential synergies and trade-offs. * Implications for ecodesign: Discuss the implications of the results for the ecodesign of devices, identifying areas for improvement to reduce environmental impact. By adding these elements of analysis and interpretation, section 5.4.5 will better meet the requirements of ISO 14040/14044 and 14067, and will provide a more solid basis for decision-making and continuous improvement. **REV 2: Completed**	Please refer to the explanation added in the section 5.4.5	X
2)	assumptions and limitations associated with the interpretation of results, both methodology and data related;		X			**REV 1:** * Insufficient interpretation of the LCIA results. * Lack of normalization of results against a common functional unit. * Lack of uncertainty analysis. * Lack of aggregated results for all device models. * Conclusions: Draw clear and concise conclusions on the results of the LCA, meeting the objectives of the study. * Recommendations: Make recommendations for improving the environmental performance of the devices. * Limitations: Discuss the limitations of the study, specifying their potential impact on the results and conclusions. **REV 2: Completed**		X
3)	data quality assessment;		X			**REV 1:** See related comments **REV 2:** see line 50 **REV 3: Completed**		X
4)	full transparency in terms of value-choices, rationales and expert judgements.		X			**REV 1:** See related comments **REV 2:** See related comments **REV 3:** See related comments **REV 4:** Completed		X
	others:		X			**REV 1**: Section 6 (Conclusion) of the report, taking into account the requirements of ISO 14040/14044 and 14067: **Mandatory requirements according to ISO 14040/14044 and 14067:** * Conclusions and recommendations: ISO 14040/14044 standards require that the LCA report contains clear conclusions and recommendations, which are derived from the results of the study and which meet the objectives of the LCA. **Recommendations**: * Correct the inconsistency on the number of devices studied. * Add more specific conclusions on the other impact categories. * Make recommendations for improving the environmental performance of the devices. * Mention the next steps envisaged by the company. **REV 2: Completed**		X

	Standards	4.8.1.1 – Conduct Life Cycle Assessment (confirming to ISO 14040, ISO 14044)	4.8.1.2 – Green House Gas Emissions/Product carbon footprint of raw material extraction through to product End of Life (using ISO 14040 & 14044 and ISO 14067)	4.8.2.1 – Corporate carbon footprint (using ISO 14040 & 14044 and GHG Protocol)	4.8.2.2 – Green House Gas Emissions from product transport (conforming to GLEC Framework).	REVIEWER COMMENTS (JUSTIFICATION FOR CHANGE)/PROPOSED CHANGE		CHECKED AND APPROVED
g)	Critical review, where applicable:							
1)	name and affiliation of reviewers;		X			Compliant		X
2)	critical review reports;		X			Compliant		X
3)	responses to recommendations.		X			Compliant		X
	The Greenhouse Gas Protocol							
	Based on EPEAT, a public GHG emissions report in accordance with the GHG Protocol Corporate Standard shall include the following information:							
	1. Description of the Company and Inventory Boundary * An outline of the organizational boundaries chosen, including the chosen consolidation approach. * An outline of the operational boundaries chosen, and if scope 3 is included, a list specifying which types of activities are covered. * The reporting period covered.			X		**REV 1:** Clarify the system boundaries for product transport emissions and avoid double-counting between the corporate carbon footprint and product transport sections. **REV 2: Completed**		X

	2. Information on Emissions
	
	* Total scope 1 and 2 emissions independent of any GHG trades such as sales, purchases, transfers, or banking of allowances.
	* Emissions data separately for each scope
	* Emissions data for all six GHGs separately (CO_2, CH_4, N_2O, HFCs, PFCs, SF_6) in metric tonnes and tonnes of CO_2 equivalent.
	* Year chosen as the base year, and an emissions profile over time that is consistent with and clarifies the chosen policy for making base year emissions recalculations.
	* Appropriate context for any significant emissions changes that trigger base year emissions recalculation (acquisitions/divestitures, outsourcing/insourcing, changes in reporting boundaries or calculation methodologies, etc.).
	* Emissions data for direct CO_2 emissions from biologically sequestered carbon (e.g., CO_2 from burning biomass/biofuels), reported separately from the scopes.
	* Methodologies used to calculate or measure emissions, providing a reference or link to any calculation tools used.
	* Any specific exclusions of sources, facilities, and/or operations.
				X		**REV 1**: The report appears to conflate the corporate carbon footprint with the product life cycle assessment, leading to potential inconsistencies and double-counting of emissions.
						Key issues and recommendations:
						* **Scope 3 Emissions:** The report incorrectly includes product life cycle emissions within the corporate carbon footprint's Scope 3. Scope 3 should focus solely on indirect emissions from the company's activities (e.g., business travel, waste disposal, employee commuting), as defined by the GHG Protocol. Product life cycle emissions should be addressed separately according to ISO 14067.
						* **System Boundaries:** The report lacks clarity and consistency in defining system boundaries. It needs to clearly specify:
						  * The organizational boundaries and consolidation approach used for the corporate carbon footprint.
						  * Which life cycle stages are included in each assessment (e.g., raw material extraction, production, use, end-of-life), ensuring consistency between the different sections of the report (e.g., Table 7 and Table 8).
						  * Details on transport modes, distances, and whether upstream and downstream transportation is included.
						* **Exclusions:** Any exclusions from the corporate carbon footprint (e.g., employee commuting, office supplies) must be explicitly justified.
						* **Methodology:** The report needs a more detailed and transparent description of the methodologies used to calculate both the corporate carbon footprint and the product life cycle emissions, including:
						  * Specific emission factors and their sources (with references), addressing the lack of references for GHG emission factors.
						  * Data sources and their quality.
						  * All assumptions made, with clear justification and discussion of their potential impact on the results.
						  * An emissions profile over time, with a defined base year.
						  * Separate reporting of emissions for all six GHGs (CO_2, CH_4, N_2O, HFCs, PFCs, SF_6) in metric tonnes and tonnes of CO_2 equivalent.
						  * Separate reporting of emissions from biologically sequestered carbon (if applicable).
						* **Double Counting:** The report's current methodology for calculating Scope 3 emissions indicates a risk of double-counting, particularly due to the inclusion of product life cycle emissions and the subtraction of Scope 1 and 2 emissions.
						
						Recommendations:
						* Clearly distinguish between the corporate carbon footprint (following the GHG Protocol) and the product life cycle assessment (following ISO 14067).
						* Precisely define the system boundaries for both assessments, providing comprehensive details and ensuring consistency throughout the report.
						* Transparently justify any exclusions from the corporate carbon footprint.
						* Provide a detailed description of the calculation methodologies, including all the elements mentioned above.
						* Ensure consistency with EPEAT requirements for both the corporate carbon footprint and the product LCA.
						* Review and revise the Scope 3 calculation method to avoid double-counting. This may involve:
						  * Clearly delineating the system boundaries for Scope 3 to focus on upstream and downstream emissions, excluding those already accounted for in Scopes 1 and 2.
						  * Using specific inventory data for Scope 3 activities.
						  * Choosing appropriate emission factors that do not overlap with those used in Scopes 1 and 2.
						  * Considering a "consumption" approach for Scope 3, focusing on emissions related to product use and end-of-life.
						* Document the subtraction method if the subtraction of Scopes 1 and 2 from Scope 3 is maintained, ensuring transparency and traceability.
						
						REV 2: Missing (**mandatory**)
						* An emissions profile over time, with a defined base year.
						* Separate reporting of emissions for all six GHGs (CO_2, CH_4, N_2O, HFCs, PFCs, SF_6) in metric tonnes and tonnes of CO_2 equivalent.
						
						REV 3:
						Mandatory Elements Missing:
						Clarify: Explicitly state whether the CCF assessment has undergone third-party verification.
						Provide Documentation: include the verification statement and verifier credentials in the documentation (To be assessed at the end)
						
						Recommendations for Enhancement (Not Mandatory):
						*Detailed Scope 3 Breakdown: Providing a more detailed breakdown of Scope 3 emissions, including specific data sources and calculation methods for each category, would enhance transparency and comprehensiveness.
						*Supply Chain Emissions: While the document mentions considering supply chain emissions, offering more specific information on how these are accounted for would be beneficial.
						
						REV 4: Considered compliant if the verification statement and verified credentials is included in the documentation*
							We have reviewed the scope and included explanations for the categories excluded from our study.
							Additionally, we have incorporated the other parameters related to GHG emissions.
							Rev.02:
							Please refer to Table 22. We have added the indicators for CO_2, CH_4, N_2O, and the total CO_2 equivalent in tons. Regarding the indicators for HFCs, PFCs, and SF_6, we have concluded that emissions of these gases are negligible or zero for our company. I have mentioned the reasons on page 43.
							
							We have specified the baseline for our emissions calculation on page 41 and included the link to our public disclosure: Hypertec Corporate Sustainability Report 2023.-
							https://hypertec.com/download/48111/?tmstv=1734719716
								X*

	Optional information ***A public GHG emissions report should include, when applicable, the following additional information:***							
	To summarize, here are the key points to verify for compliance with the EPEAT corporate carbon footprint (CCF) criterion: * **Annual CCF:** Verify that the manufacturer conducts a CCF annually, including emissions from owned/leased facilities, the supply chain, product use, and end-of-life. * **Scope Definition**: Ensure the CCF scope includes all facilities with significant					**REV 1: Points to Improve** * The report lacks clarity on the organizational and operational boundaries of the inventory. It should explicitly state the consolidation approach used and provide a more detailed breakdown of the activities included in Scope 3. * The report does not provide the total Scope 1 and Scope 2 emissions independently of any GHG trades such as sales, purchases, transfers, or banking of allowances. It should report these figures separately to enhance transparency. * While the report mentions using the best available data, it does not provide specific methodologies used to calculate or measure emissions for each source. More details on the calculation methods, emission factors, and data sources are needed. * The report does not include an emissions profile over time, which is essential for tracking progress and identifying trends. It should establish a base year and report emissions for multiple years to provide context. * The report does not mention the specific types of activities covered in Scope 3. It should provide a list of the included Scope 3 categories to ensure transparency and avoid confusion. * The report should more clearly distinguish between the corporate carbon footprint and the product carbon footprint to avoid confusion and potential double-counting of emissions. * The report should provide more detailed justifications for the exclusion of certain Scope 3 categories, such as employee commuting and business travel. * The report should include emissions data for all six GHGs separately (CO_2, CH_4, N_2O, HFCs, PFCs, SF_6) in metric tonnes and tonnes of CO_2 equivalent. * The report should include emissions data for direct CO_2 emissions from biologically sequestered carbon, reported separately from the scopes. * The report needs to include a URL or other evidence of public disclosure of the CCF results. This allows stakeholders to easily verify and scrutinize the company's emissions information.		

<table>
<tr>
<th colspan="2">Standards</th>
<th>4.8.1.1 – Conduct Life Cycle Assessment (confirming to ISO 14040, ISO 14044)</th>
<th>4.8.1.2 – Green House Gas Emissions/Product carbon footprint of raw material extraction through to product End of Life (using ISO 14040 & 14044 and ISO 14067)</th>
<th>4.8.2.1 – Corporate carbon footprint (using ISO 14040 & 14044 and GHG Protocol)</th>
<th>4.8.2.2 – Green House Gas Emissions from product transport (conforming to GLEC Framework).</th>
<th>REVIEWER COMMENTS
(JUSTIFICATION FOR CHANGE)/PROPOSED CHANGE</th>
<th></th>
<th>CHECKED AND APPROVED</th>
</tr>
<tr>
<td></td>
<td>responsibility for the declared products and that the manufacturer has documented how they define "significant responsibility."
* Verification and Disclosure:Verify that the CCF results are third-party verified annually and publicly disclosed, with evidence provided (e.g., a URL to the report).
* Exclusions:Check for documentation of any excluded GHG emissions.
* Product Coverage: Ensure the CCF scope includes the declared products.
* Standards and Methodology:Verify the use of an acceptable CCF standard (or combination of standards) and that the methodology aligns with the chosen standard(s).</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td>Recommendations
* Clarify the organizational and operational boundaries of the inventory, including the consolidation approach and the specific Scope 3 categories covered.
* Report total Scope 1 and Scope 2 emissions independently of any GHG trades.
* Provide detailed methodologies for calculating or measuring emissions for each source, including emission factors, data sources, and any assumptions made.
* Establish a base year and provide an emissions profile over time to track progress and identify trends.
* Clearly distinguish between the corporate carbon footprint and the product carbon footprint.
* Provide detailed justifications for any excluded Scope 3 categories.
* Report emissions data for all six GHGs separately and in CO2 equivalent.
* Report emissions data for direct CO2 emissions from biologically sequestered carbon separately.
* Include a URL or other evidence of public disclosure of the CCF results.

REV 2: Missing (mandatory)
* An emissions profile over time, with a defined base year.
* Separate reporting of emissions for all six GHGs (CO2, CH4, N2O, HFCs, PFCs, SF6) in metric tonnes and tonnes of CO2 equivalent.
* Include a URL or other evidence of public disclosure of the CCF results. (to be assessed)

REV 3: Completed</td>
<td>We have provide detailed methodologies for calculating or measuring emissions for each source, including emission factors</td>
<td>X</td>
</tr>
<tr>
<td>Green House Gas Emissions from product transport (conforming to GLEC Framework).</td>
<td>EPEAT's criterion for greenhouse gas emissions from product transport requires manufacturers to:

* Conduct an annual assessment:Assess GHG emissions from transporting the declared products, including well-to-wheel emissions from final assembly to the purchaser.
* Include all transport modes: Cover all modes of freight movement (road, air, sea, inland waterways, rail).
* Use approved methodologies: Use the GLEC Framework or mode-specific methodologies (with well-to-tank emissions assessed if not included in the mode-specific methodology).
* Publicly disclose results:Disclose annually a summary of absolute and/or normalized GHG emissions.
* Set and report on an emission reduction goal: Develop and publicly report progress towards a transport-related GHG emission reduction goal.

Verification Requirements:
* Scope alignment:Document how the assessment scope aligns with the criterion.
* Methods used: List the methods used for the assessment.
* Public disclosure: Provide the location of the publicly posted results, emission reduction goal, and progress report.</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>REV 1: The section on GHG emissions from product transport is generally consistent with the GLEC Framework but needs improvement in clarity, completeness, and consistency. Key Issues: * Terminology: The report uses ""Scope 1, 2, and 3"" to categorize transport emissions, conflicting with the GLEC Framework's terminology (Well-to-Tank (WTT), Tank-to-Wheel (TTW), and Other) and potentially causing confusion with the corporate carbon footprint scopes. * Double Counting: There is a high risk of double-counting transport emissions, as these may already be included in the corporate carbon footprint's Scope 3. * System Boundaries: The report lacks clarity on which transport stages are included (e.g., only finished goods or also raw materials/components). Recommendations: * Clarify Terminology: Use the GLEC Framework's WTT, TTW, and Other categories to avoid confusion. * Prevent Double Counting: Ensure transport emissions are accounted for only once, either within the corporate carbon footprint or in a separate product transport section. * Define System Boundaries: Clearly specify which transport stages are included in the analysis. * Justify Methodology: Provide a detailed explanation of the Well-to-Wheel methodology and its application to this LCA, including the reasons for choosing this approach. * Enhance Data Description: Provide more information on the collection and calculation of activity data (e.g., distance, mass, transport modes) and justify the chosen emission factors. * Present Results Clearly:Use the GLEC Framework terminology and appropriate units (e.g., kg CO2e/tonne-km) when presenting results. Consider a table format like the one you provided for clarity. By implementing these recommendations, the report will be more aligned with the GLEC Framework, ensuring a more accurate, transparent, and credible assessment of transport-related emissions. Example of how to present the results: | Element	Quantity	Unit	GHG Emissions (t CO2 eq)
Well-to-Tank (WTT)	\[Quantity of fuel consumed]	\[Unit]	\[WTT emissions]
Tank-to-Wheel (TTW)	\[Distance travelled]	\[Unit]	\[TTW emissions]
Total			\[Total emissions] | * Include a URL or other evidence of public disclosure of the results. REV 2: To be assessed REV 3: Mandatory: *Verification Requirement: EPEAT 4.8.2.2 mandates that the GHG assessment undergoes third-party verification. The verification statement should be included in your documentation, along with the verifier's credentials and contact information (To be assessed at the end) *Public Disclosure Requirement: EPEAT 4.8.2.2 requires annual public disclosure of both absolute GHG emissions (e.g., annual tons of CO2e) and/or normalized GHG emissions (e.g., grams of CO2e per ton-km). Comment: While your report presents a summary of these results, it doesn't explicitly state that this information is publicly disclosed. Please ensure the summary of results, including the location where it is publicly accessible (e.g., a website URL), is clearly stated in your documentation. *Emission Reduction Goal Requirement: EPEAT 4.8.2.2 mandates the development of an emission reduction goal and annual public reporting of progress towards meeting this goal. Comment: Your current documentation lacks an emission reduction goal and a plan for reporting progress. Please define a specific, measurable, achievable, relevant, and time-bound (SMART) emission reduction goal related to product transport. Include a plan to track and publicly report progress towards this goal annually. *Clarification on Distance Type Requirement: The type of distance used in the calculations (transport distance or travel distance) should be clearly specified. Comment: Your document mentions using distances between the plant and client postal codes but doesn't explicitly define the type of distance used. Please clarify whether the distances used represent "transport distance" or "travel distance" to ensure consistency and transparency. Transport Distance vs. Travel Distance Transport Distance: This refers to the actual distance covered by the vehicle transporting the goods. It considers the specific route taken, including any detours, road conditions, or traffic that might affect the total distance traveled. Travel Distance: This is the straight-line or 'as-the-crow-flies' distance between the origin and destination points. It doesn't account for the actual path taken by the vehicle. The comment is asking Hypertechnologie Ciara Inc. to explicitly state which type of distance they used in their calculations. Since they mention using distances between the plant and client postal codes, it's possible they used travel distance (straight-line distance). If this is the case, they should clarify it. If they used transport distance (actual route distance), they should also clearly state this and, ideally, provide information on how they determined these distances (e.g., using GPS data, route planning tools, etc.). Recommendations for Enhancement (optional): *Data Source Transparency: Provide more detailed explanations and references for data sources, including specific data points like average distances and emission factors. * Explicit Emission Breakdown: While using the well-to-wheel (WTW) approach, explicitly state the operational and energy provision emissions separately. *Energy Carrier Breakdown: Include a breakdown of emissions by energy carrier (diesel) to provide a more comprehensive understanding of the emissions sources. REV 4: Considered compliant if the verification statement and verified credentials is included in the documentation*</td>
<td>Please refer to the new calculation:Table 25: Product Transportation Emissions Inventory based on CLEC methodology</td>
<td>X*</td>
</tr>
</table>

Critical Review Report

This review, with the following matrix, assures if the issue is described in the Environmental Data Disclosure Hypertec Group Civil Year 2023 (DOC. #: RP_HYP_QA011_Rev.01) published on CIARA's website and if it is produced according to the requirements and guidelines in the applicable reference as EPEAT Program.

Third-party verification of **data published on CIARA's website** according to the requirements of the 4.9.2.1 criterion of EPEAT
GRI 302: Energy Reporting Requirements
GRI 303: Water and Effluents Reporting Requirements
GRI 305: Emissions Reporting requirements
GRI 3: Material Topics 2021

GRI 302: Energy Reporting Requirements	Status	Verifier's Comments	CIARA's Comments
Management approach disclosures			
1.1 The reporting organization shall report its management approach for energy using *GRI 3: Material Topics 2021*	Completed	**V1:** The report lacks a description of the management approach for energy using GRI 3: Material Topics 2021. **V2:** Renewable Energy Reporting: The report mentions that Hypertec procures Renewable Energy Certificates (RECs) to reduce Scope 2 emissions. However, it's unclear how these RECs are accounted for in the energy consumption and emissions data. Further clarification is needed on whether the reported renewable energy consumption includes the RECs or if they are treated separately.	V1: Please refer to the section I have added Management Approach P.4 V2: Please refer to the explanation added: P. 13
Disclosure 302-1 Energy consumption within the organization			
The reporting organization shall report the following information:	Completed	The report does not provide information on total fuel consumption from renewable	- Please refer to this note: ' Hypertec's heating and cooling

GRI 302: Energy Reporting Requirements	Status	Verifier's Comments	CIARA's Comments
a. Total fuel consumption within the organization from non-renewable sources, in joules or multiples, and including fuel types used. b. Total fuel consumption within the organization from renewable sources, in joules or multiples, and including fuel types used. c. In joules, watt-hours or multiples, the total: i. electricity consumption ii. heating consumption iii. cooling consumption iv. steam consumption d. In joules, watt-hours or multiples, the total: i. electricity sold ii. heating sold iii. cooling sold iv. steam sold e. Total energy consumption within the organization, in joules or multiples. f. Standards, methodologies, assumptions, and/or calculation tools used. g. Source of the conversion factors used		sources, total heating consumption, total cooling consumption, total steam consumption, and the source of conversion factors used.	systems operate entirely on electricity. As a result, the reported electricity consumption includes energy used for climate control (heating and cooling), eliminating the need for separate reporting under heating and cooling categories.' - Steam Consumption: "Hypertec does not utilize steam in its operations. Our energy needs for heating and cooling are entirely met through electricity consumption. As such, the consumption of steam is not applicable to our energy reporting -The source of conversion factors has been added in the footnotes section: **Ministry-Environment Conversion-Table-GHG**
Disclosure 302-2 Energy consumption outside of the organization			
The reporting organization shall report the following information: a. Energy consumption outside of the organization, in joules or multiples. b. Standards, methodologies, assumptions, and/or calculation tools used. c. Source of the conversion factors used.	N/A	The report does not provide any information on energy consumption outside the organization.	N/A Please refer to section 302-2 in the index P.18: 'This metric does not apply to Hypertec Group's activities and energy consumption scope.'
Disclosure 302-3 Energy intensity			
The reporting organization shall report the following information: a. Energy intensity ratio for the organization. b. Organization-specific metric (the denominator) chosen to calculate the ratio. c. Types of energy included in the intensity ratio; whether fuel, electricity, heating, cooling, steam, or all.	Completed	**V1:** The report does not provide information on the energy intensity ratio, the organization-specific metric used, and the types of energy included **in the ratio.** **V2:**	V1: Please refer to the section on Intensity Value (4.4.2, P.17) and description of Energy/ GHG emissions Intensity Ratio P.5

GRI 302: Energy Reporting Requirements	Status	Verifier's Comments	CIARA's Comments
d. Whether the ratio uses energy consumption within the organization, outside of it, or both.		• Explanation of Scope 3 Increase: The report attributes the significant increase in Scope 3 emissions to the expansion of the work scope and inclusion of additional categories. However, it would be beneficial to provide more specific details about the impact of each new category on Scope 3 emissions and the reasons for the substantial increase (p.17) • Energy Consumption Table: In the "Source of Energy" table, the total renewable energy for 2020 is listed as 50,1900 MWh, which seems to be an error with an extra zero. The correct value should likely be 50,190 MWh (Table 4.2.3.4 *Source of Energy* p.9)	V2: I have added an explanation for the significant increase in Scope 3 on page 17 Energy Consumption Table: It was an error I have corrected it
Disclosure 302-4 Reduction of energy consumption			
The reporting organization shall report the following information: a. Amount of reductions in energy consumption achieved as a direct result of conservation and efficiency initiatives, in joules or multiples. b. Types of energy included in the reductions; whether fuel, electricity, heating, cooling, steam, or all. c. Basis for calculating reductions in energy consumption, such as base year or baseline, including the rationale for choosing it. d. Standards, methodologies, assumptions, and/or calculation tools used.	Completed	The report does not provide information on the amount of energy consumption reductions achieved, the types of energy included in the reductions, and the basis for calculating reductions.	I have added the variation in both amount and percentage. Additionally, I have included a paragraph in the scope section detailing the reduction calculation methodology.
Disclosure 302-5 Reductions in energy requirements of products and services			
The reporting organization shall report the following information: a. Reductions in energy requirements of sold products and services achieved during the reporting period, in joules or multiples.	Completed	The report does not provide any information on reductions in energy requirements of sold products and services.	Please refer to the section (4.2.4) P.9

GRI 302: Energy Reporting Requirements	Status	Verifier's Comments	CIARA's Comments
b. Basis for calculating reductions in energy consumption, such as base year or baseline, including the rationale for choosing it. c. Standards, methodologies, assumptions, and/or calculation tools used.			

GRI 303: Water and Effluents Reporting Requirements	Status	Verifier's Comments	CIARA's Comments
Management approach disclosures			
The reporting organization shall report its management approach for water and **effluents** using *GRI 3: Material Topics 2021*	Completed	The report lacks a description of the management approach for water and effluents using GRI 3: Material Topics 2021.	
Disclosure 303-1 Interactions with water as a shared resource			
The reporting organization shall report the following information: a. A description of how the organization interacts with water, including how and where water is withdrawn, consumed, and discharged, and the water-related impacts caused or contributed to, or directly linked to the organization's activities, products, or services by a business relationship (e.g., impacts caused by runoff). b. A description of the approach used to identify water-related impacts, including the scope of assessments, their timeframe, and any tools or methodologies used. c. A description of how water-related impacts are addressed, including how the organization works with stakeholders to steward water as a shared resource, and how it engages with suppliers or customers with significant water-related impacts. d. An explanation of the process for setting any water-related goals and targets that are part of the organization's management approach, and how they relate to public policy and the local context of each area with water stress.	N/A	The report does not provide any information on interactions with water as a shared resource.	This section is not applicable to Hypertec.
Disclosure 303-2 Management of water discharge-related impacts			
The reporting organization shall report the following information: a. A description of any minimum standards set for the quality of effluent discharge, and how these minimum standards were determined, including: i. how standards for facilities operating in locations with no local discharge requirements were determined. ii. any internally developed water quality standards or guidelines. iii. any sector-specific standards considered. iv. whether the profile of the receiving waterbody was considered.	N/A	The report does not provide any information on the management of water discharge-related impacts.	This section is not applicable to Hypertec.
Disclosure 303-3 Water withdrawal			
The reporting organization shall report the following information:	N/A	The report does not provide any information on water withdrawal.	This section is not applicable to Hypertec.

GRI 303: Water and Effluents Reporting Requirements	Status	Verifier's Comments	CIARA's Comments
a. Total water withdrawal from all areas in megaliters, and a breakdown of this total by the following sources, if applicable: i. Surface water. ii. Groundwater. iii. Seawater. iv. Produced water. v. Third-party water. b. Total water withdrawal from all areas with water stress in megaliters, and a breakdown of this total by the following sources, if applicable: i. Surface water. ii. Groundwater. iii. Seawater. iv. Produced water. v. Third-party water, and a breakdown of this total by the withdrawal sources listed in i-iv. c. A breakdown of total water withdrawal from each of the sources listed in Disclosures 303-3-a and 303-3-b in megaliters by the following categories: i. Freshwater (≤1,000 mg/L Total Dissolved Solids). ii. Other water (>1,000 mg/L Total Dissolved Solids). d. Any contextual information necessary to understand how the data have been compiled, such as any standards, methodologies, and assumptions used.			
Disclosure 303-4 Water discharge			
The reporting organization shall report the following information: a. Total water discharge to all areas in megaliters, and a breakdown of this total by the following types of destination, if applicable: i. Surface water. ii. Groundwater. iii. Seawater. iv. Third-party water, and the volume of this total sent for use to other organizations, if applicable. b. A breakdown of total water discharge to all areas in megaliters by the following categories:	N/A	The report does not provide any information on water discharge.	This section is not applicable to Hypertec.

GRI 303: Water and Effluents Reporting Requirements	Status	Verifier's Comments	CIARA's Comments
i. Freshwater (≤1,000 mg/L Total Dissolved Solids). ii. Other water (>1,000 mg/L Total Dissolved Solids). c. Total water discharge to all areas with water stress in megaliters, and a breakdown of this total by the following categories: i. Freshwater (≤1,000 mg/L Total Dissolved Solids). ii. Other water (>1,000 mg/L Total Dissolved Solids). d. Priority substances of concern for which discharges are treated, including: i. how priority substances of concern were defined, and any international standard, authoritative list, or criteria used. ii. the approach for setting discharge limits for priority substances of concern. iii. number of incidents of non-compliance with discharge limits. e. Any contextual information necessary to understand how the data have been compiled, such as any standards, methodologies, and assumptions used.			
Disclosure 303-5 Water consumption			
The reporting organization shall report the following information: a. Total water consumption from all areas in megaliters. b. Total water consumption from all areas with water stress in megaliters. c. Change in water storage in megaliters if water storage has been identified as having a significant water-related impact. d. Any contextual information necessary to understand how the data have been compiled, such as any standards, methodologies, and assumptions used, including whether the information is calculated, estimated, modeled, or sourced from direct measurements, and the approach taken for this, such as the use of any sector-specific factors.	Completed	**V1:** The report does not provide contextual information on how the water consumption data has been compiled. **V2:** Water Consumption Data: The report presents water consumption data in megaliters (ML) but doesn't specify whether this represents water withdrawal or consumption. Clarifying this distinction would be important for accuracy.	V1: Please refer to the assessment description for water consumption on page 4. V2: The data presented represents actual water consumption, we have already explained the methodology in P. 6

GRI 305: Emissions Reporting requirements	Status	Verifier's Comments	CIARA's Comments
Management approach disclosures			
1.1 The reporting organization shall report its management approach for emissions using *GRI 3: Material Topics 2021*	Completed	The report does not explain whether offsets were used to meet GHG emissions targets.	"Hypertec utilizes Renewable Energy Certificates (RECs: 3474 for CY2023) " Please refer to management approach section P.4

GRI 305: Emissions Reporting requirements	Status	Verifier's Comments	CIARA's Comments
1.2 When reporting on GHG emissions targets, the reporting organization shall explain whether offsets were used to meet the targets, including the type, amount, criteria, or scheme of which the offsets are part.			
Disclosure 305-1 Direct (Scope 1) GHG emissions			
The reporting organization shall report the following information: a. Gross direct (Scope 1) GHG emissions in metric tons of CO_2 equivalent. b. Gases included in the calculation; whether CO_2, CH_4, N_2O, HFCs, PFCs, SF_6, NF_3, **or** all. c. Biogenic CO_2 emissions in metric tons of CO_2 equivalent. d. Base year for the calculation, if applicable, including: i. the rationale for choosing it. ii. emissions in the base year. iii. the context for any significant changes in emissions that triggered recalculations of base year emissions. e. Source of the emission factors and the global warming potential (GWP) rates used, or a reference to the GWP source. f. Standards, methodologies, assumptions, and/or calculation tools used.	Completed	The report does not provide information on biogenic CO_2 emissions, the base year for the calculation, and the source of emission factors and GWP rates used.	Hypertec does not use biogenic energy sources in its operations; therefore, no significant biogenic emissions are reported. Please refer to the description on page 10.
Disclosure 305-2 Energy indirect (Scope 2) GHG emissions			
The reporting organization shall report the following information: a. Gross location-based energy indirect (Scope 2) GHG emissions in metric tons of CO_2 equivalent. b. If applicable, gross market-based energy indirect (Scope 2) GHG emissions in metric tons of CO_2 equivalent. c. If available, the gases included in the calculation; whether CO_2, CH_4, N_2O, HFCs, PFCs, SF_6, NF_3, or all. d. Base year for the calculation, if applicable, including: i. the rationale for choosing it. ii. emissions in the base year. iii. the context for any significant changes in emissions that triggered recalculations of base year emissions. e. Source of the emission factors and the global warming potential (GWP) rates used, or a reference to the GWP source.	Completed	The report does not provide information on market-based energy indirect (Scope 2) GHG emissions, gases included in the calculation, and the consolidation approach for emissions.	Please refer to the description on page 11.

GRI 305: Emissions Reporting requirements	Status	Verifier's Comments	CIARA's Comments
f. Consolidation approach for emissions; whether equity share, financial control, or operational control. g. Standards, methodologies, assumptions, and/or calculation tools used.			
Disclosure 305-3 Other indirect (Scope 3) GHG emissions			
The reporting organization shall report the following information: a. Gross other indirect (Scope 3) GHG emissions in metric tons of CO_2 equivalent. b. If available, the gases included in the calculation; whether CO_2, CH_4, N_2O, HFCs, PFCs, SF_6, NF_3, or all. c. Biogenic CO_2 emissions in metric tons of CO_2 equivalent. d. Other indirect (Scope 3) GHG emissions categories and activities included in the calculation. e. Base year for the calculation, if applicable, including: i. the rationale for choosing it. ii. emissions in the base year. iii. the context for any significant changes in emissions that triggered recalculations of base year emissions. f. Source of the emission factors and the global warming potential (GWP) rates used, or a reference to the GWP source. g. Standards, methodologies, assumptions, and/or calculation tools used.	Completed	**V1:** The report does not provide information on biogenic CO_2 emissions, the base year for the calculation, and the source of emission factors and GWP rates used. **V2:** Scope 3 Emission Factor Source: The report states that emission factors for Scope 3 emissions are sourced from the GHG Protocol for general ones and the EPA database for IT equipment. However, specific details about which emission factors were used from each source are not provided. To ensure transparency and clarity, the report should provide specific details about the emission factors used for each Scope 3 category. This could include: • Listing the specific emission factors: For each category, list the emission factors used from the GHG Protocol and the EPA database. • Providing references: Include references to the specific sources within the GHG Protocol and EPA database where the emission factors were obtained.	There is no biogenic energy sources used in its operations Please refer to the description (Scope 3) P.11 V2: please refer the annex 2 for the emission factors used in the report

GRI 305: Emissions Reporting requirements	Status	Verifier's Comments	CIARA's Comments
		• Explaining any adjustments: If any adjustments were made to the default emission factors, explain the reasons for the adjustments and the methodology used.	
Disclosure 305-4 GHG emissions intensity			
The reporting organization shall report the following information: a. GHG emissions intensity ratio for the organization. b. Organization-specific metric (the denominator) chosen to calculate the ratio. c. Types of GHG emissions included in the intensity ratio; whether direct (Scope 1), energy indirect (Scope 2), and/or other indirect (Scope 3). d. Gases included in the calculation; whether CO2, CH4, N2O, HFCs, PFCs, SF6, NF3, or all.	Completed	The report does not provide information on the GHG emissions intensity ratio, the organization-specific metric used, and the types of GHG emissions included in the intensity ratio.	Please refer to the section on Intensity Value (4.4.2, P.13) and description of Energy/ GHG emissions Intensity Ratio P.5
Disclosure 305-5 Reduction of GHG emissions			
The reporting organization shall report the following information: a. GHG emissions reduced as a direct result of reduction initiatives, in metric tons of CO2 equivalent. b. Gases included in the calculation; whether CO2, CH4, N2O, HFCs, PFCs, SF6, NF3, or all. c. Base year or baseline, including the rationale for choosing it. d. Scopes in which reductions took place; whether direct (Scope 1), energy indirect (Scope 2), and/or other indirect (Scope 3). e. Standards, methodologies, assumptions, and/or calculation tools used.	Completed	The report does not provide information on GHG emissions reduced, gases included in the calculation, and the base year or baseline.	Please refer to the section on Absolute Value 4.4.1 (Variation & Improvement)
Disclosure 305-6 Emissions of ozone-depleting substances (ODS)			
The reporting organization shall report the following information: a. Production, imports, and exports of ODS in metric tons of CFC-11 (trichlorofluoromethane) equivalent. b. Substances included in the calculation. c. Source of the emission factors used. d. Standards, methodologies, assumptions, and/or calculation tools used.	N/A	The report does not provide any information on emissions of ozone-depleting substances	Not applicable: Our activities focus on assembling IT equipment, a process that does not require the use of ODS.
Disclosure 305-7 Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions			

GRI 305: Emissions Reporting requirements	Status	Verifier's Comments	CIARA's Comments
The reporting organization shall report the following information: a. Significant air emissions, in kilograms or multiples, for each of the following: i. NOX ii. SOX iii. Persistent organic pollutants (POP) iv. Volatile organic compounds (VOC) v. Hazardous air pollutants (HAP) vi. Particulate matter (PM) vii. Other standard categories of air emissions identified in relevant regulations b. Source of the emission factors used. c. Standards, methodologies, assumptions, and/or calculation tools used.	N/A	The report does not provide any information on nitrogen oxides, sulfur oxides, and other significant air emissions.	Not applicable: Our company does not generate significant NOx, SOx, or other air emissions, as our activities focus on IT equipment assembly, which does not involve combustion or industrial processes that release these pollutants. However, we ensure that our suppliers comply with air quality regulations and adopt best practices to minimize emissions.

Disclosure 3-3 Management of material topics	Status	Verifier's Comments	CIARA's Comments
Disclosure 3-3 Management of material topics			
For each material topic reported under Disclosure 3-2, the organization shall: a. describe the actual and potential, negative and positive impacts on the economy, environment, and people, including impacts on their human rights; b. report whether the organization is involved with the negative impacts through its activities or as a result of its business relationships, and describe the activities or business relationships; c. describe its policies or commitments regarding the material topic; d. describe actions taken to manage the topic and related impacts, including: i. actions to prevent or mitigate potential negative impacts; ii. actions to address actual negative impacts, including actions to provide for or cooperate in their remediation; ii. actions to manage actual and potential positive impacts; e. report the following information about tracking the effectiveness of the actions taken: i. processes used to track the effectiveness of the actions; ii. goals, targets, and indicators used to evaluate progress;	Completed	The report does not describe the actual and potential impacts of material topics on the economy, environment, and people, including impacts on human rights.	Please refer to: Impacts on the Economy, Environment, and People section P. 5

Disclosure 3-3 Management of material topics	Status	Verifier's Comments	CIARA's Comments
iii. the effectiveness of the actions, including progress toward the goals and targets; iv. lessons learned and how these have been incorporated into the organization's operational policies and procedures; f. describe how engagement with stakeholders has informed the actions taken (3-3-d) and how it has informed whether the actions have been effective (3-3-e).			
Topic management disclosures: additional requirements GHG emissions			
When reporting on GHG emissions targets, the reporting organization shall explain whether offsets were used to meet the targets, including the type, amount, criteria or scheme of which the offsets are part	Completed	The report does not explain whether offsets were used to meet GHG emissions targets.	We have added a description below the table of: Procurement of Renewable Energy Certificates (REC) P.12
General Reporting Clarity	Completed	Specific tables in the report that have inconsistent formatting or missing units, particularly those related to Scope 3 emissions: **Scope 3 Emissions Tables:** **Category 1: Purchased Goods and Services:** This table is missing units for the "Intensity Metric" columns. It's unclear whether the values are in t CO_2-e / sq.ft or t CO_2-e / $ CAD Revenue. **Category 2: Capital Goods:** Like Category 1, this table lacks units for the "Intensity Metric" columns. **Category 3: Fuel-and-Energy Activities:** This table has inconsistent formatting compared to other Scope 3 tables, using "t CO_2-e / sq.ft" instead of separating the units into individual columns for each metric.	V2: Regarding the Intensity Metric columns, we have presented intensity metrics in relation to both building surface area (square feet) and revenue (Canadian dollars). Therefore, we included both units: metric tonnes of CO_2 equivalent per square foot (t CO_2-e / sq.ft) and metric tonnes of CO_2 equivalent per Canadian dollar of revenue (t CO_2-e / $ CAD Revenue) to provide a comprehensive view of our emissions intensity

Disclosure 3-3 Management of material topics	Status	Verifier's Comments	CIARA's Comments
		Category 4: Upstream Transportation and Distribution: This table uses inconsistent abbreviations for units, using "t CO_2-e" in the first column but "tCO_2-e" in the "Intensity Metric" columns. **Category 5: Waste Generated in Operations:** This table also lacks units for the "Intensity Metric" columns. **Category 6: Business Travel:** This table has the same issue with missing units for the "Intensity Metric" columns. **Category 7: Employee Commuting:** This table is missing units for the "Intensity Metric" columns. **Category 8: Upstream Leased Assets:** This table lacks units for the "Intensity Metric" columns. **Category 9: Downstream Transportation and Distribution:** This table has missing units for the "Intensity Metric" columns. **Category 11: Use of Sold Products:** This table also lacks units for the "Intensity Metric" columns. **Total Gross Scope 3:** This table has missing units for the "Intensity Metric" columns. **Additional Tables with Minor Inconsistencies:** **Oil Fuel (Diesel) from Stationary and Mobile Sources:** This table has a missing	

Disclosure 3-3 Management of material topics	Status	Verifier's Comments	CIARA's Comments
		value in the "Annual Variation (%)" column for 2022. **Source of Energy:** This table has inconsistent formatting for the "Variation vs 2019" rows, using different spacing and alignment compared to other tables. **Recommendations:** **Add Missing Units:** Ensure that all tables have clear and consistent units for all columns, especially those related to Scope 3 emissions. **Standardize Formatting:** Use consistent formatting for all tables, including column headers, units, and alignment.	
	Completed	The report uses the terms "variation" and "improvement" interchangeably, which could lead to confusion. Using consistent terminology would improve clarity.	We have decided to use "Variation" to describe any increase or decrease to ensure consistency and clarity in the report.
	Completed	The descriptions of methodologies used for calculating energy and emissions data could be more detailed and specific. Providing more context on the data sources, assumptions, and calculation steps would enhance transparency.	