Greenhouse Gases Report

TEKNOSERVICE

Revision control					
Review	**Date**	**Changes**	**Elaborated**	**Revised**	**Approved**
00	07/02/2022	Initial version	MF	SB	MI

INDEX

REFERENCE STANDARDS

UNE-EN ISO 14064-1	Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals
UNE-EN ISO 14067	Greenhouse gases. Carbon footprint of products. Requirements and guidelines for quantification
UNE-EN 16258	Methodology for calculation and declaration of energy consumption and GHG emissions of transport services (freight and passengers)

ACRONYMS

LCA	Life cycle analysis
AECOC	Manufacturers and Distributors Association
GHG	Greenhouse Gases
GWP	Global Warming Potential
ICAO	International Civil Aviation Organization

DEFINITIONS

Greenhouse Gases

Gaseous component of the atmosphere, both natural and anthropogenic, that absorbs and emits radiation at specific wavelengths within the spectrum of infrared radiation emitted by the Earth's surface, atmosphere and clouds. ISO 14064-1 §3.1.1.

GHG reservoir

Component, other than the atmosphere, that has the capacity to accumulate GHGs and to store and release them. ISO 14064-1 §3.1.4.

Biogenic Carbon

Emissions related to the natural carbon cycle, as well as those resulting from the combustion, harvesting, digestion, fermentation, decomposition or processing of bio-based materials

1. GENERAL DETAILS, PURPOSE AND POLICY

1.1. Introduction

This document provides the complete global greenhouse gas inventory for the year 2021.

Teknoservice's emission reporting and classification process is consistent with international protocols and standards. This report has been prepared in accordance with Standard 14064-1:2019 - The information provided follows the requirements included in Section 9.3.1 of the Standard and 9.3.2 where applicable.

1.2. Purpose

Teknoservice's intention at this point is to demonstrate the use of best practices with respect to consistency, reproducibility and integrity with respect to greenhouse gas emissions.

This report:

- It refers to Teknoservice emissions.
- It has been prepared in accordance with the requirements of ISO 14064-1:2019.
- It prioritizes the use of primary data whenever possible but especially about the largest sources of emissions. When primary data is not available, a consistent and conservative approach has been taken in the calculations.
- It reflects Teknoservice's commitment to better understand and improve operational performance with respect to emissions.

An additional target is included to reduce annual emissions by 10%. This first report will serve as a reference for measuring the target year by year.

1.3. Description of Teknoservice

Teknoservice is a 100% Spanish capital company with more than 25 years of experience in the ICT sector. It is specialized in offering Integral Technological Solutions, based on the quality of TTL Professional products and on service excellence.

More information is available at http://www.teknoservice.es/

Company data:

Company	Teknoservice
Address	PIBO. Avda de Albaida, 1. Bollullos de la Mitación, 41110 (Seville)
CIF	B41485228
Type of footprint	Carbon footprint
Period analysed	2021
Standard used	ISO 14064-1:2019
Contact	manuel.florido@teknoservice.es

1.4. GHG policies and sustainability, strategies and programs

Teknoservice's vision as a 100-year old company is about reaching an end point. It is a daily mindset about growing a strong, iconic and lasting business. This means leaving a better place than we found it and doing everything possible to safeguard the future of people, communities and our planet.

Climate change remains a critical issue for businesses and governments around the world. For Teknoservice, this begins with the acceptance that our business is based on an activity that generates carbon emissions and therefore has the responsibility to reduce those emissions while maintaining our competitiveness and ability to provide quality services in accordance with the expectations of our customers.

Teknoservice's commitment to sustainability, safety, health and the environment has been and will continue to be a fundamental element of our successful operating practices to date.

1.5. Responsible personnel

The GHG inventory and report have been prepared at Teknoservice headquarters by the quality and certification staff.

1.5.1. Training of the team for the preparation of the GHG report and emissions inventory

Team members who have conducted the emissions inventory with awareness of all the principles and requirements of ISO 14064-1:2019.

1.6. Audience and Broadcasting Policy

This report has been made in order to provide Teknoservice's main collaborators with information about the greenhouse gas inventory, its structure and relevant explanations. It will be made public after accreditation by a third party.

1.7. Reporting period and frequency

This report covers the year 2021, from January 1 to December 31.

GHG reports will be issued annually.

1.8. Report standardization, approaches and verification

1.8.1. ISO 14064-1:2019 compliance

The GHG report for the year 2021 has been prepared in accordance with ISO 14064-1:2019. A traceability matrix with the reference standard is included in Annex 1.

1.8.2. GHG inventory audit

The GHG inventory has been verified at a reasonable level by Ecoterrae.

2. ORGANIZATIONAL BOUNDARIES

Teknoservice uses the operational control method to inventory your emissions. This method considers all emissions over which Teknoservice has control, but not necessarily financial control.

The most significant application of this approach is the inclusion of emissions from our supply chain, so that it is reflected from material extraction to the end of the product's life.

3. SYSTEM LIMITS

3.1. Emissions categorization and classification

The sources of greenhouse gases have been identified and grouped according to ISO 14064-1:2019.

- Direct GHG emissions and removals
- Indirect GHG emissions from energy imports
- Indirect GHG emissions from transport
- Indirect GHG emissions from products used by the company
- Indirect GHG emissions from the use of manufactured products
- Indirect GHG emissions from other sources

3.2. Significant factors

The following factors have been considered according to their magnitude and degree of relevance, including

- Amount of emissions
- Degree of influence of Teknoservice on the emission source
- Difficulty in obtaining data
- Validity of estimates

Based on the above, the criteria for identifying sources of significant emissions are

- When a single source has emissions likely to account for at least 1% of total Teknoservice emissions, it should be included.
- The total of non-significant sources should not exceed 5%.

3.3. Summary of included emission sources and activity data

Category	Emission source	Activity data
Category a) Direct GHG emissions	Diesel consumed by mobile sources	Fuel consumption accounting entries
Category b) Indirect GHG emissions from imported energy	Consumption of electricity	Electric Bills
Category c) Indirect GHG emissions from transport	Internal transport	Data on number of employees Distance to work center
	External transport	Fleet of vehicles of transport companies
Category d) Indirect GHG emissions from products used by the organization	Manufacture of components	Information provided by the supply chain
	Component delivery	Validated Transportation Emissions Calculation Tools
Category e) Indirect GHG emissions from other sources	Product use	Energy Star consumption data
	End of product life	Units sold of product

3.4. Summary of exclusions

The following sources of emissions are identified but excluded from the emissions inventory These sources have not been considered significant or material to the contributors, in the context of the inventory, or are not feasible or practical to calculate at this time.

As noted in Section 3.2, the total sum of emissions excluded is estimated to be less than 5% of total emissions from Teknoservice.

Category	Emission source	Comments
1	Fugitive emissions from air conditioning systems	Very difficult to obtain reliable data. It is estimated to be <0.5%.
4	Packaging	It has not been considered when assuming <1% of the emission because of its low weight and being made with recycled materials
5	Product recycling and component reuse	They have not been included as we do not know the exact center where the waste is processed, its associated emissions and the % of product used. It is estimated that in this phase the emissions are favorable and reduces the impact to the product
6	Manufacturing of buildings and auxiliary industries	It cannot be feasibly quantified. It is estimated to be <0.5%.
6	Replacement components	The failure rate of products delivered by Teknoservice is <3%, and the repair does not always involve the replacement of components. It is estimated that it contributes <2% of the

No CH4, N2O, NF3, or SF6 emissions have been detected during the analysis.

3.5. Selection of the quantification approach

The quantification of the data has been made from calculation based on the formula:

Emissions = ADxEF

Where:

AD: Activity data
EF: Emission factor

The mode of calculation has been made from the emission sources and associated activity data are included in the table in section 3.3.

4. QUANTIFICATION OF THE EMISSIONS INVENTORY

4.1. Consolidated GHG emissions data.

Total carbon footprint (Tn CO_2 eq)	**2.565**	**Tn CO_2 eq**

GHG Emissions Category 1		
Direct emissions of fuel from mobile elements	28,82	Tn CO_2 eq
TOTAL	**28,82**	**Tn CO_2 eq**

GHG Emissions Category 2		
Indirect emissions from energy consumption	10,37	Tn CO_2 eq
TOTAL	**10,37**	**Tn CO_2 eq**

GHG Emissions Category 3		
Emissions associated with shipments of finished products (criteria according to EN 16258)	23,97	Tn CO_2 eq
Emissions from commuting to work	192,78	Tn CO_2 eq
Emissions from business travel	0,36	Tn CO_2 eq
TOTAL	**217,11**	**Tn CO_2 eq**

GHG Emissions Category 4		
Emissions associated with material supplies	1151,99	Tn CO_2 eq
TOTAL	**1.151,99**	**Tn CO_2 eq**

GHG Emissions Category 5		
Emissions associated with product use	1154,41	Tn CO_2 eq
Emissions associated with product waste	1,89	Tn CO_2 eq
TOTAL	**1156,31**	**Tn CO_2 eq**

4.2. Methodology for data collection and quantification

As Teknoservice has an international supply chain, data collection is global in scope and therefore several different databases had to be used to reach the desired level of detail.

The emissions summary represents the best attempt to consolidate and standardize emissions data, providing a detailed explanation of the working methodology and estimates, in accordance with the requirements of ISO 14064-1:2019.

Section 3.3 provides an overview of emission sources and their respective data sources. Where an approximation or estimation has been required, the best available calculation methods have been used. Where two or more possible and equally valid estimates have been considered, the one that is most unfavourable in terms of the level of emissions produced has been considered.

4.2.1. Emissions from fuel consumption

The calculation of the category 1 emissions has been made according to the emission factors included in table A1 of the UNE-EN 16258:2013, relating the volume of fuel consumed to the CO_2 eq emitted into the atmosphere. The *well to wheel* factors have been considered to incorporate the consumption from the extraction of the raw material.

4.2.2. Electrical Consumption

For the calculation of emissions derived from electricity consumption, determined as category 2, the value provided by the Ministry for Ecological Transition and Demographic Challenge has been taken as a reference, with the values corresponding to 2021, specifically for the company that provides electricity supply to Teknoservice.

4.2.3. Equipment consumption

Since the evaluated equipment is Energy Star certified, it has been possible to establish the consumption that it will have during its useful life, which is estimated at 5 years. This value corresponds to the guarantee that Teknoservice gives to its equipment.

4.2.4. Manufacture of components

Supply chain related emissions have been considered. Suppliers have provided the necessary information to perform this calculation. The system has been extended through the entire subcontracting chain to ensure that emissions from the extraction of the material are considered.

4.2.5. Sending components from suppliers

The carbon footprint calculation tool created by DHL, and validated by SGS, has been used to calculate the emissions associated with the shipment of materials from the subcontractor to Teknoservice. This tool has considered the weight and volume of the packages, as well as the place of collection and destination in order to estimate the emissions produced during transport.

4.2.6. Sending products to customers

To avoid double counting, only the emissions associated with transport companies contracted by Teknoservice have been estimated. Those deliveries made by our own vehicles are considered in category 1 emissions through fuel consumption.

All methods of transport to final customers have been considered. After analysing them, it was determined that only road transport is applicable to our products.

The emissions associated with transport companies have been made considering the composition of the vehicle fleet. Based on this composition, the average fuel consumption has been calculated, based on the guide for calculating the carbon footprint of road freight transport, issued by the AECOC in 2017.

4.2.7. Travel

The distances of the business trips made by Teknoservice staff have been considered. Emissions estimates have been made through the emissions calculation tool created by ICAO.

4.2.8. Waste treatment

To calculate the emissions associated with the treatment of electronic waste, the carbon footprint calculation guide created by the Basque Government has been used, considering the amount of waste produced.

4.3. Information management procedures

GHG reporting and measurement has been performed to ensure compliance with the principles of ISO 14064-1:2019 and to be consistent with the intended use of the GHG inventory.

The procedures outlined below are designed to establish a structure and provide controls to ensure the accuracy and integrity of the inventory.

This GHG report also includes the following considerations:

- Responsibility and authority for the development of the inventory.
- Review and implementation of training for the team that establishes the inventory.
- Identification of organizational and system boundaries.
- Selection and review of GHG sources and sinks
- Details of quantification methods and considerations for their consistent application.

4.4. Determination of uncertainty

For this report corresponding to the year 2021, a more qualitative than quantitative evaluation has been carried out for the determination of uncertainty. With current tools and a variety of emission sources, our view is that a quantitative assessment would be complex and offer little validity in terms of statistical uncertainty. The applicability of these quantitative assessments will be reviewed in each reporting period.

The emissions inventory included in section 4.1 entails a certain degree of indetermination, especially about data provided by third parties.

Teknoservice works with a complex international network of collaborators, which involves third parties and includes a large amount of data, especially considering that this study is carried out from the extraction of the raw material to the final disposal of the product.

Available data, integration systems and business sensitivity can influence how broadcast information has been transmitted and interpreted throughout the supply chain. In any case, we have full confidence in the information provided by our partners.

Where there are uncertainties or omissions in existing data, a conservative approach has been taken.

Determination of degree of uncertainty:

Activity data	Range of uncertainty
Fuel consumption accounting entries	A
Electric Bills	A
Data on number of employees Distance to workplace	D
Fleet of vehicles of transport companies	C
Information provided by the supply chain	D
Validated Transportation Emissions Calculation Tools	B
Energy Star consumption data	A
Units sold of product	A

Emission source	Range of uncertainty
Diesel consumed by mobile sources	A
Consumption of electricity	A
Internal transport	B
External transport	B
Manufacture of components	D
Component delivery	A
Product use	B
End of product life	C

4.5. Changes from the base year

2019 has been set as the base year. Since then the GHG impact has been increased due to higher production.

4.6. Elimination and reductions/increases

Not applicable.

ANNEX 1

Traceability between the report and ISO 14064-1:2019

Section of ISO 14064-1:2019	Report section
9.3.1 (a)	1.3
9.3.1 (b)	1.4
9.3.1 (c)	1.6
9.3.1 (d)	2
9.3.1 (e)	3
9.3.1 (f)	4.1
9.3.1 (g)	3.3
9.3.1 (h)	4.6
9.3.1 (i)	3.3
9.3.1 (j)	4.1
9.3.1 (k)	4.5
9.3.1 (l)	4.5
9.3.1 (m)	4.2
9.3.1 (n)	4.2
9.3.1 (o)	4.6
9.3.1 (p)	4.4
9.3.1 (q)	4.4
9.3.1 (r)	1.7
9.3.1 (s)	1.7
9.3.1 (t)	4.2
9.3.2 (a)	1.3
9.3.2 (b)	4.6
9.3.2 (c)	4.6
9.3.2 (d)	NA
9.3.2 (e)	4.6
9.3.2 (f)	4.1
9.3.2 (g)	5.3
9.3.2 (h)	5.5
9.3.2 (i)	4.3
9.3.2 (j)	4.6
9.3.2 (k)	4.6

GHG Emissions Review Report

UNE-EN ISO 14064: 2019

Teknoservice

Parq. Ind. Pibo, Av. Albaida, 1, 41110
Bollullos de la Mitación, Seville. Spain

This report has been prepared by Ecoterrae with all reasonable skill and diligence within the terms and conditions of the contract between Ecoterrae and the client.

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Object

The purpose of this statement prepared by the ECOTERRAE GLOBAL SOLUTIONS S.L. Team is to present the result of the evaluation carried out at TEKNOSERVICE on the verification of the Greenhouse Gas inventory for the year 2021.

The verified information is contained in the "*GEI Report TEKNOSERVICE 2022 Rev.00*" dated February 2022.

Organization

TEKNOSERVICE

Parque Industrial Pibo, Av. Albaida, 1, 41110 Bollullos de la Mitación, Seville (Spain)

Organization representative (s)

Manuel Florido Puig-Samper. Quality Manager

Objectives of the review or verification activities

The purpose of the verification activities carried out has been to evaluate compliance with UNE-EN ISO 14064 on the GHG declaration and the calculation of greenhouse gases (GHG) of the Organization.

The verification has been carried out on the greenhouse gas inventory for the year 2021 and the information contained in the 2021 GHG inventory report of the Organization dated February 2022.

Verification scope

Carbon Footprint of Teknoservice Organization according to categories:

a) Direct GHG emissions and removals
   - Emissions generated in the consumption of fossil fuels (Diesel A) in vehicles.

b) Indirect GHG emissions from energy imports
   - Indirect emissions associated with the consumption of purchased energy (electricity).

c) Indirect GHG emissions from transportation
   - Indirect emissions associated with the shipment of manufactured products.
   - Indirect emissions associated with the transport of employees.
   - Indirect emissions associated with the transport of personnel derived from business trips.

d) Indirect GHG emissions derived from products used by the company
   - Indirect emissions associated with supplies of materials (manufacturing and transport).

e) Indirect GHG emissions derived from the use of manufactured products
   - Indirect emissions associated with the use and end of life of the products.

They are excluded from the scope emissions associated with activities not carried out by TEKNOSERVICE. In particular:

1. Fugitive emissions from air conditioning systems (use of refrigerant gases).
2. GHG emissions associated with the use of packaging.
3. GHG emissions from the recycling and reuse of materials.
4. GHG emissions associated with spare parts components.
5. Manufacture of buildings and auxiliary industries.

Validation or verification criteria

- UNE-EN ISO 14064.2019 - part 1
- UNE-EN ISO 14064: 2019 - part 3
- UNE-EN 16258
- TEKNOSERVICE GHG emissions inventory report 2021

Level of assurance required

The level of assurance used by the verifier to determine if there are errors, omissions or misinterpretations has been "REASONABLE assurance level".

Declaration of conformity

Based on the process and procedures performed, the GHG statement:

- It is substantially correct and is a faithful representation of the GHG information and data and,

- is prepared in accordance with the standard related to GHG quantification, monitoring and reporting, or with relevant national standards or practices.

GHG emissions (tCO2e) 2021

Emission sources	Emissions (tCO2e)
Direct fuel emissions from moving parts	28.82
Indirect emissions from energy consumption	10.37
Emissions associated with shipments of finished products	23.97
Emissions derived from commuting to work	192.78
Emissions derived from business trips	0.36
Emissions associated with supplies of materials	1,151,99
Emissions associated with the use of products	1,154.41
Emissions associated with product waste	1.89
TOTAL	**2,564,61 tCO2e**

The products manufactured by Teknoservice, and that have been evaluated for this study are the following:

- Portátil (laptop)
- Teknopro
- Teknoslim
- Teknopack
- Ultrazero
- Ultrabook

TECHNICAL REVIEW STATEMENT

Commissioned by:

TEKNOSERVICE

Carried out by:

ECOTERRAE GLOBAL SOLUTIONS SL

Reviewed by:

Sergio Ballestero Muñoz-Reja. (Project Manager at ECOTERRAE)

Reference:

- UNE-EN ISO 14064-1: 2019 "*Greenhouse gases - Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals (ISO 14064-1: 2018)*"

- UNE-EN 16258 2013 "*Methodology for calculation and declaration of energy consumption and GHG emissions of transport services (freight and passengers)*"

Scope:

Direct fuel emissions from moving parts	Emissions derived from business trips
Indirect emissions from energy consumption	Emissions associated with supplies of materials
Emissions associated with shipments of finished products	Emissions associated with the use of products
Emissions derived from commuting to work	Emissions associated with product waste
	Emissions derived from business trips

Analysis and verification of individual data sets are outside the scope of this review.

Products evaluated:

- Portátil (laptop)
- Teknopro
- Teknoslim
- Teknopack
- Ultrazero
- Ultrabook

General evaluation:

- This evaluation is based on the final report received on February 7, 2022.
- The objective and scope of the evaluation are clearly defined.
- The system limit adequately includes all the emission sources contemplated according to the ISO 14064-1: 2019 standard.
- The team made every effort to break down each component included in the system for inclusion in the models.
- To calculate the emissions associated with transport, the study has been based on the criteria established by the UNE-EN 16258 standard.
- Any important assumptions that had a significant influence on the results are well justified. If not, the exclusions have been consistently justified.
- The team was always very open and responsive to my comments and all were directed to my complete satisfaction.
- They were also very open in demonstrating all aspects of the models used as part of the calculations.

Conclusion:

The study has been carried out in accordance with ISO 14064-1: 2019 standards. The critical reviewer considered the overall quality and rigor of the methodology and its execution to be well suited for the purposes of this study. The study is reported in a comprehensive manner and is transparent in its scope and in its methodological choice.

Sergio Ballestero Muñoz-Reja

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