

## Ανθρακικό Αποτύπωμα της Μακίος ΑΕ

Η Μακίος Α.Ε. έχει ήδη αρχίσει από το 2019 να προσπαθεί να μειώσει το ανθρακικό της αποτύπωμα όπως φαίνεται από την εγκατάσταση των φωτοβολταϊκών και την εγκατάσταση της μονάδας ενεργειακής εκμετάλλευσης βιοαερίου από απόβλητα.

Συγκεκριμένα:

- Στις 16/9/2019 ολοκληρώθηκε η εγκατάσταση φωτοβολταϊκού πάρκου 500 kW στη στέγη του Ψυγείου 2 στο Καλοχώρι. Τον Ιούνιο του 2020 συνδέθηκε ένα ακόμα πάρκο στη στέγη του Ψυγείου 3-4 ισχύος 500 kW και το Νοέμβριο του 2020 τοποθετήθηκε φωτοβολταϊκό πάρκο ισχύος 249,48 kW στη στέγη της αποθήκης στη Γέφυρα Θεσσαλονίκης. Τέλος έχει προγραμματιστεί η εγκατάσταση φωτοβολταϊκών ισχύος 999.9 kW στις στέγες του Ξηρού 1 και του Ψυγείου 1 στις εγκαταστάσεις του Καλοχωρίου το Σεπτέμβριο του 2022. Το 2021 παράχθηκαν 1529,5 MWh από τα φωτοβολταϊκά της εταιρείας, σε περίπτωση που η ενέργεια αυτή είχε αγορασθεί από κάποιο πάροχο θα είχαν εκπεμφθεί **624.55 τόνοι CO<sub>2e</sub>** ενώ μέσω των φωτοβολταϊκών που έχει εγκαταστήσει η εταιρεία οι εκπομπές για την συγκεκριμένη ενέργεια είναι μηδενικές.
- Τον Σεπτέμβριο του 2021 ξεκίνησε η λειτουργία μονάδας επεξεργασίας γεωκτηνοτροφικών αποβλήτων για την παραγωγή και εκμετάλλευση βιοαερίου. Το βιοαέριο που παράγεται τηρεί τις υψηλότερες προδιαγραφές και παράγει ανανεώσιμη πηγή ενέργειας που τροφοδοτείται στο δίκτυο. Περαιτέρω μέσω της επεξεργασίας αποβλήτων αποφεύγονται εκπομπές καθώς αυτά τα απόβλητα αν δεν επεξεργάζονταν από την εταιρεία θα εκπέμπαν μεθάνιο στην ατμόσφαιρα. Συγκεκριμένα για το 2021 η εταιρεία επεξεργάσθηκε 4023 τόνους αποβλήτων που αν είχαν αφεθεί σε κάποια χωματερή ή χωράφι θα είχαν εκπέμψει **1666.48 τόνους CO<sub>2e</sub>** από μεθάνιο ενώ με την επεξεργασία που κάνει η εταιρεία εκπέμπονται **0.32 τόνοι CO<sub>2e</sub>** σε CH<sub>4</sub> και N<sub>2</sub>O.

Η εταιρεία περαιτέρω πιστοποιήθηκε με σύστημα Υπολογισμού και Διαχείρισης των Εκπομπών Αερίων του Θερμοκηπίου, ISO 14064-1 για να αναφέρει το ανθρακικό της αποτύπωμα χρησιμοποιώντας τις καλύτερες πρακτικές και μεθοδολογίες. Ακολουθεί η Δήλωση Επαλήθευσης του Φορέα Πιστοποίησης.



# Greenhouse Gases Verification Statement

Statement (No 20000230008578)



The inventory of Greenhouse Gas emissions Report of:

**MAKIOS S.A.**

**5<sup>th</sup> klm Thessaloniki-Kalochori**

**GR-546 28 THESSALONIKI, GREECE**

in the Reporting period: 2021

which has been prepared according to the requirements of the standard:

**ISO 14064-1:2018**

and verified in accordance with ISO 14064-3:2019, is satisfactory and there are not material misstatements.

The declared GHG emissions, analyzed as:

<b>Total GHG emissions:</b>	<b>19.847,72</b>	<b>t CO<sub>2e</sub></b>
Direct GHG emissions:	<b>18.289,28</b>	<b>t CO<sub>2e</sub></b>
- non-biogenic:	17.970,20	t CO <sub>2e</sub>
- biogenic:	319,08	t CO <sub>2e</sub>
Indirect GHG emissions:	<b>1.558,44</b>	<b>t CO<sub>2e</sub></b>
- imported energy:	1.558,44	t CO <sub>2e</sub>
- transportation:	Ø	t CO <sub>2e</sub>
- products used by organization:	Ø	t CO <sub>2e</sub>
- from other sources	Ø	t CO <sub>2e</sub>
<b>Removals of GHG emissions:</b>	<b>Ø</b>	<b>t CO<sub>2e</sub></b>

Verification Statement No.: **20000230008578**

Athens, 2023-02-20

Ioannis Kallias  
General Manager  
Certification Body  
at TÜV AUSTRIA

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GEMI No.: 1650201000



This Verification was conducted in accordance with TÜV AUSTRIA auditing and Verification procedures.  
Every page of this statement is valid, only if it is accompanied with the rest pages of the statement





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TÜV Austria Hellas, accredited Verification Body for GHG emissions against ISO 14065:2020, Accreditation number 876, verifies with reasonable assurance that the GHG emissions Report of the organization **Makios S.A.**

## Information about the verification

The verification body TÜV AUSTRIA Hellas ("Verification Body") has undertaken the third-party verification of the information included in the annual GHG Emissions Report ("Emissions Report") for the reporting year **2021** (1/1/2021-31/12/2021) of the company **Makios S.A.** ("Company"), according to the requirements of the standard ISO 14064-1:2018. The responsibility for the information included in the Emissions Report remains exclusively to the Company. The Verification Body conducted sampling inspection of evidence and data, and the relevant procedures and systems, aiming to the verification of the Emission Report.

It is noticed that the Verification Body has not ever provided any consulting services to the Company.

## Verification Objective and Scope

The Verification Body conducted the following third-party verification tasks, during the time period of 01/01/2021 to 31/12/2021:

1. Evaluation of the management system and the methodology for the quantification, monitoring and reporting of the GHG emissions of the company, according to the requirements of the standards ISO 14064-1:2018 and ISO 14064-3:2019.
2. Onsite verification audits at the following sites:
  - Headquarters, Kalochoi Thessaloniki
  - HUB, Gefyra Thessaloniki

aiming at:

- the verification of the existence and application of systems appropriate for monitoring, collection, processing and reporting of data contained in the Emission Report and the documents of the GHG emissions management system of the Company.
- the assurance of the reliability, the relevance, the completeness, the consistency, the accuracy and the transparency of the quantitative and qualitative data contained in the Emissions Report, without any material errors, omissions or misrepresentations.

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## Scope

- a) organizational boundaries or the GHG project and its baseline scenarios;
- b) physical infrastructure, activities, technologies and processes of the organization or GHG project;
- c) GHG sources, sinks and/or reservoirs;
- d) types of GHGs;
- e) time period(s).

## Assurance level

The assurance level agreed with the Company is that of reasonable assurance.

## Materiality level

For the purposes of the verification, the agreed level of assurance has been defined as 5%, based on the needs of the intended use of the Emission Report. Therefore, material misstatements are defined any omissions, distortions and errors, which when quantified, result in more than 5% with respect to the total of emissions.

## Intended use

The Emissions Report is intended to be used by the Company for the following uses:

- Public Demonstration

## Conclusions

The Company provided its assertions in the Emissions Report for the reporting year 2021 (1/1/2021-31/12/2021), based on the requirements of the standard ISO 14064-1:2018. The reported by the Company GHG emissions, for the above mentioned time period, have been verified by the Verification Body and they are in accordance with those reported in the 1<sup>st</sup> page of the present statement, consistent with the agreed scope, objective and verification criteria.

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The verification tasks followed the requirements of the standard ISO 14064-3:2019 and were based on a risk analysis approach, resulting to appropriate, per case, sampling schemes for the collection of the necessary evidence, tracing back from the Emission Report' references to the primary data.

All data and information supporting the GHG assertions in the Emission Report were based on data and information of historical in nature.

## Verification Decision

Based on the verification process, procedures and tasks conducted, the GHG assertions included in the Emission Report:

- are materially correct and a fair representation of the GHG data and information
- are prepared and presented in accordance with the standard ISO 14064-1:2018 for the GHG quantification, monitoring and reporting.

GHG emissions Report is satisfactory and there are not material misstatements

When the issuance of an opinion is satisfactory with comments or unsatisfactory the verifier or validator shall state the reasons for the decision and place this description before the verifier's or validator's conclusion

## Opportunities for Improvement - Findings

Based on the findings and conclusions derived from the verification process, the Verification Body's recommendations for the improvement of the Company's future Emissions Reports are as follows:

- Use of more suitable, in terms of more contemporary, secondary data (EFs)

On behalf of TÜV AUSTRIA Hellas,  
Athens, 20/02/2023

Kamanatzis Evangelos  
Lead GHG Verifier

Ioannis Kallias  
General Manager

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