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Verification Statement

VS-3868839-ext

Add value.
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The Carbon Footprint study report dated from 22.09.2023

Südzucker AG
Factory Plattling
Dr.-Ludwig-Kayser-Str. 1
D-94447 Plattling

for the reporting period **01.01.2022 to 31.12.2022**

has been verified in accordance with
DIN EN ISO 14067: 2019.

Partial Product Carbon Footprint

PCF of one ton of silo sugar (without packaging) produced in the Plattling sugar factory in the cradle-to-the-factory-gate approach

Result of the study:

With balance sheet allocation according to energy source use in the boiler house:

biogas batch:	**0,313 t CO_2-eq/t beet sugar** (applies to 4,1 % of the total amount of sugar)
non-biogas batch:	**0,550 t CO_2-eq/t beet sugar** (applies to 95,9 % of the total amount of sugar)

Agreed level of assurance	reasonable
Materiality thresholds	5 % for total sum of reported greenhouse gas emissions

This verification statement is only valid for the scope mentioned and in conjunction with the objectives and criteria for the assessment as well as our conclusions (following pages).

TÜV SÜD Industrie Service GmbH
Westendstrasse 199, 80686 Munich, Germany
Accredited verification body according to DIN EN ISO/IEC 17029:2020

Munich, 13.11.2023

Explanation to the Verification statement

Brief description of the Verification process

Südzucker AG has submitted a greenhouse gas declaration for the submission of a Product Carbon Footprint in accordance with DIN EN ISO standard 14067. Therefore, Südzucker AG defined the target and provided the available primary data from the reference period 01.01.2022 – 31.12.2022.

The mentioned ISO standards require a verification by independent auditors prior to publication.
Südzucker AG has voluntarily commissioned TÜV SÜD Industrie Service GmbH (verification body) to perform an independent (third party) verification of its Carbon Footprint study report statement (in the final version of 22.09.2023) for the period 01.01.2022 – 31.12.2022.
This verification was carried out in accordance with the latest standards of DIN EN ISO 14067 in conjunction with the validation/verification procedure of DIN EN ISO 14064-3.
This verification was based on the intended scope, objectives and criteria agreed with the commissioning on 19.09.2023.

The personnel deployed by the verification body conducted a document review and audits of responsible and contributing personnel online for the Plattling site (20.09.2023 and 22.09.2023) in the period from 20.09.2023 onwards.
The Plattling sugar factory is very well known to the employees of the verification body who carried out this audit due to the verifications within the framework of emissions trading (EU ETS). For this reason, no new on-site visit was carried out for this verification. The explanations of the PCF study required for a deeper understanding could be easily obtained in an online conference. In addition, further documents that were not yet known from audits on the EU ETS were requested and shown.

Roles and responsibilities

The determination and reporting of GHG emissions are the sole responsibility of our client.

Our role and responsibility as an accredited verification body was to independently verify the adequacy of the GHG emissions reported by our client in the CFP study report of 22.09.2023 (as PDF) analysis and control, in accordance with the requirements of DIN EN ISO 14067.

Standards for data processing DIN EN ISO 14067:2019

System boundaries

The declared unit is defined as 1 ton of beet sugar (without packaging).

Different cases are considered:
- Emissions of CO2 equivalents per tonne of beet sugar that could have been produced from the energy contribution of biogas used to generate energy in the boiler house
- Emissions of CO2 equivalents per tonne of beet sugar corresponding to energy generation from fuels other than biogas.

Südzucker AG analyses the emissions in a cradle-to-gate approach for production at the Plattling sugar factory. The downstream life cycle stages of transport/delivery to customers, application/utilisation of the sugar and possible emissions at the end of life are not taken into account.

The production of the Plattling sugar factory was divided into three main processes:
- Boiler house
- Silosugar production
- Pulp dryer

Capital goods (including infastructure) are not included in the study. Likewise, only five auxiliary materials were included in the calculation. All other auxiliary materials as well as LPG were excluded as insignificant due to their low share in CO2 emissions (e.g. 0.01% for LPG).

In the sugar factory Plattling direct capture and storage of greenhouse gases do not take place.

Relevant emissions in the balance

☒ Carbon dioxide (CO_2),	☐ Perfluorocarbons,
☒ Methane (CH_4),	☐ sulphur hexafluoride (SF_6),
☒ nitrogen dioxide (N_2O),	☐ nitrogen trifluoride (NF_3)
☐ hydrofluorocarbons,	☐ other

The greenhouse gas inventory contains the specified greenhouse gases with information as CO2 equivalents.
Emissions of other greenhouse gases as such were not identified in this application.

The greenhouse gas inventory contains the emission factors with information as CO2 equivalents. GWP factors according to the software SimaPro version 9.5.0.1 with the databases ecoinvent V.3 (Wernet et al.,2021), Agri-footprint 5 database (Blonk et al., 2019) and IPCC 2021 GWP100 were used for the determination.

Specific Measures / Particularities in reporting

The division into two batches - biogas batch and non-biogas batch - is being done by the determination of the energy ratio of biogas and fossil fuels within the energy delivering CHP process and the subsequent transfer of this ratio onto the other data from the life cycle inventory.

Intended users of this verification statement

Existing and potential industrial customers of Südzucker AG

Südzucker AG has provided a summary of the CFP study submitted to us for verification for communication purposes. This summary reflects the same results that are presented in the CFP study with a more detailed description of system boundaries and data tables.

Due to trade and business secrets, this data is not disclosed in the summary of the study. It is therefore not possible to provide any further details in this report. If you are interested in further details, please contact Südzucker AG.

Standard for the verification DIN EN ISO 14064-3: 2020

Objectives of the Verification

The evaluation was performed in accordance with a risk-based approach while maintaining our impartiality. Rational audit procedures were applied in order to arrive at reliable and comprehensible results. As part of our audit, sufficient appropriate evidence was obtained and explained by representatives of Südzucker AG during the audit. This enabled sufficient traceability of the information presented with the GHG balance sheet.

Criteria

The data review was conducted according to the following criteria:
Relevance, completeness, accuracy, transparency of information and consistency.
The assessment of alternatives according to the quantification model used was carried out according to the principle of conservatism.

Agreed level of assurance reasonable

Comment:
At a reasonable - but not absolute - level of assurance, we check that the GHG statement is substantially correct. This includes a review of the processes, data and evidence on their correctness and accuracy with an appropriately adequate sample size.

Materiality threshold

5 % for the total sum of greenhouse gas emissions

Comment:
The materiality threshold is a benchmark for our assessment of data gaps, misstatements and non-conformities remaining at the end of our review.
Gaps, omissions, inaccuracies identified during the review that result in quantities greater than the established thresholds constitute a "material deviation", i.e. non-conformity, that must be addressed before a verification statement can be issued.
The level agreed here with the assignment was a proposal on our part, with which the claims regarding completeness of the processed data can be described as demanding.

Methods of Verification

- Strategic analysis and risk assessment for GHG declaration
- Planning of audit program and procedure
- Interviews with relevant personnel of Südzucker AG
- Review of supporting documentation on material inputs
- Review of data and information systems and the methodology for collecting, aggregating, analysing and verifying the information used to determine GHG emissions
- Sample testing of data and evidence used to determine GHG emissions
- Recalculation of the greenhouse gas balance
- Independent audit (quality assurance by an auditor not involved in the audit process)

Conclusions

With the review of the CFP study report of Südzucker AG (in the final version of 22.09.2023) for the product beet sugar, we find that the determined greenhouse gas emissions for the reporting year 2022 are presented factually correct in all material respects in accordance with the specifications and standards used as a basis here.

Südzucker AG has implemented appropriate collection/estimation methods that, with the CFP study report provided, allow for a determination of GHG emissions for the 2022 reporting year.

Based on the results of our verification process, we confirm the reported emissions and the achievement of the specified level of assurance as well as the compliance with the agreed materiality thresholds.

The verification statement is only to be interpreted in conjunction with the Südzucker AG Greenhouse Gas Statement (as finalised 22.09.2023) as a whole.

This statement is issued in accordance with the agreement reached with the client and within the framework of our validation and verification regulations. The results recorded here are based on our internal documentation dated 16.11.2023 for this verification with project no. 3868839.