

SGS ICS Italy declares that the " CO2 Tariff" developed by

FS ENGINEERING S.p.A.

Headquarter

Via G. Galati, 71 Roma (RM) – Italia

According to the Technical Specification of FS ENGINEERING S.p.A. (PPA.0000867-rev.L):

Methodology for quantifying and reporting, on a project basis, greenhouse gas emissions generated by the design and construction of transportation infrastructure with reference to the requirements of the standard UNI EN ISO 14064-1:2019

It was verified in the manner of ISO 14064-3:2019 and found to be consistent with the objectives and scope below:

CO2 Tariff

Methodology for calculating the climate footprint that applies to works and infrastructures in the design phase.

This certificate is valid from 20/12/2023.

Validity is subject to the satisfactory outcome of the periodic monitoring activity.

Issue n.2, third issue of 11/05/2026

Issue n.1, second issue of 03/12/2024

Issue n.0, first issue of **20/12/2023**

This certificate is not valid without the detail regarding the purpose, objectives, criteria and conclusions of the verification available on pages 2 to 4 of this document.

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Annex to Verification Statement n. IT26/99009982

Brief description of the verification process

SGS was commissioned by FS ENGINEERING S.p.A., headquartered at Via G. Galati, 71 ROMA, for the verification:

- "CO2 Tariff" developed by FS ENGINEERING S.p.A., in accordance with the Technical Specification of FS ENGINEERING S.p.A. (PPA.0000867-rev.L, based on the UNI EN ISO 14064-1:2019 standard, which defines a methodology for calculating CO2e emissions to be applied to works and infrastructures at the design stage. Based on typologies or estimated metric calculations, the fee schedule associates CO2e quantities with the production of the main constituent materials of the work, transportation, and processing of materials at the construction site.
- Of the application of the calculation methodology defined in the Technical Specification of FS ENGINEERING S.p.A. (PPA.0000867-rev.L) and the "CO2 Tariff" to the Technical and Economic Feasibility Project "POTENZIAMENTO INFRASTRUTTURALE ORTE-FALCONARA RADDOPPIO DELLA TRATTA PM228-CASTELPLANIO – LOTTO 3"

Roles and responsibilities

FS ENGINEERING S.p.A. is responsible for the development of the GHG quantification and reporting system, and the development and maintenance of the registration and reporting procedures in accordance with this system, including calculations related to the CO2 equivalent emissions associated with the different tariffs used in the design phase.

SGS is responsible for the formulation of an independent verification opinion on the consistency of the "CO2 Tariff" with respect to the methodology developed by FS ENGINEERING S.p.A. in accordance with FS ENGINEERING S.p.A.'s Technical Specification (PPA.0000867-rev.L) and the UNI EN ISO 14064-1:2019 standard, and its application to the Technical and Economic Feasibility Project "POTENZIAMENTO INFRASTRUTTURALE ORTE-FALCONARA RADDOPPIO DELLA TRATTA PM228-CASTELPLANIO – LOTTO 3"

SGS conducted an independent third-party verification of the CO2 equivalent assertion of a specific project in April 2026 following the requirements of ISO 14064-3:2019. The assessment was conducted through document review, interviews and evidence collection with reference to scope, objectives and criteria as agreed between FS ENGINEERING S.p.A. and SGS.

Purpose

FS ENGINEERING S.p.A. commissioned SGS to carry out an independent verification of the application of FS Engineering's Technical Specification on the quantification of CO2e emissions generated by the design and construction of transportation infrastructure, in order to assess its consistency with the requirements of UNI EN ISO 14064-1:2019 within the scope of the verification scope as further described below. The data and information supporting the CO2 equivalent assertion shall be supported by objective evidence.

This assignment concerns verification:

- Of the Technical Specification "Methodology for the Measurement of Greenhouse Gas Emissions" and the "Tariff of CO2"
- of Greenhouse Gas emissions quantified and reported for the Technical and Economic Feasibility Project "POTENZIAMENTO INFRASTRUTTURALE ORTE-FALCONARA RADDOPPIO DELLA TRATTA PM228-CASTELPLANIO – LOTTO 3" in accordance with the Technical Specification of FS Engineering S.p.A.

Criteria

The criteria with reference to which the verification activity was carried out are those of UNI EN ISO 14064-1:2019; the methodologies of ISO 14064-3:2019 were adopted for conducting the verification.



Description of the "CO2 Tariff"

The scope within which the methodology is developed includes the activities that are performed during the construction phases of the work, such as:

- the production of construction materials,
- the transportation of such materials from the place of production to the construction site,
- the work performed on the construction site.

Excluded from reporting are the design, use/maintenance, decommissioning and end-of-life phases of the work.

The "CO2 Tariff Schedule" guarantees a minimum coverage of 80% of the economic countervalue of the work. The "CO2 Tariff Schedule" items associated with the Italian Railway Network Tariffs (hereafter RFI Tariffs) of greatest interest and use have been defined, a management model that provides that the minimum 80% coverage of the work in economic terms is guaranteed.

The emissions calculation model involves the use of unit emission factors, related to materials, transport and processing produced during the construction of the infrastructure work, expressed according to the type of inventory flow considered in terms of TCO_{2e}/t, TCO_{2e}/m³, TCO_{2e}/kWh, TCO_{2e}/l. These factors are mainly derived from the following official sources and recognized by the scientific community: SINANET and ISPRA - Emission factors for electricity production and consumption in Italy; Ministry of the Environment and Protection of Land and Sea - National Standard Parameter Table; ISPRA - Emission factors for stationary combustion sources in Italy; EPDs issued by manufacturers; Ecoinvent Database v3.12

During the audit, activities were conducted to verify the logic of processing and reporting of the "CO2 Tariff" against the scope of application with reference to ISO 14064-1:2019.

In particular, the way of calculating CO₂ equivalent was verified with respect to the three main processes included in the quantification, and in particular:

- materials: for all major infrastructure constituent materials (identified on a historical basis and on the RFI Tariffs), specific reference databases were identified to be adopted for inventory constitution (Ecoinvent 3.12) and the associated CO_{2e} value obtained by applying the chosen characterization factors (IPCC 2021 AR6: GWP 100) to the inventory.
- Transportation: the method involves quantifying the emissions generated by the transportation process to and from the construction site and related to the main constituent materials of the work, including waste (impacts from the use of fuels in the transportation means were calculated by adopting a WTW approach).
- workings: quantification of emissions generated by the work processes at the construction site was conducted taking into account the necessary works as per the Tariff Items (e.g., earth handling, material transport, energy consumption required by the machinery and equipment used at the construction site).

Application of the "CO2 Tariff" and methodology to the Technical and Economic Feasibility Project "POTENZIAMENTO INFRASTRUTTURALE ORTE-FALCONARA RADDOPPIO DELLA TRATTA PM228-CASTELPLANIO – LOTTO 3".

For the quantification of CO_{2e} emissions of the Technical and Economic Feasibility Project "POTENZIAMENTO INFRASTRUTTURALE ORTE-FALCONARA RADDOPPIO DELLA TRATTA PM228-CASTELPLANIO – LOTTO 3" FS Engineering S.p.A. applied the methodology defined by the Technical Specification that involves drawing items from CME associated with the project under consideration by correlating them through the CO₂ Tariff to the corresponding GHG emissions.



The CO2e values for the project are as follows:

Phase List	tCO2e
<i>Raw material extraction (pre-production) and Industrial production</i>	263.542
<i>Material Transportation</i>	23.525
<i>Material Transportation</i>	19.855
TOTAL	306.922

Conclusions

FS ENGINEERING S.p.A. has developed a CO2e quantification tool, called the "CO2 Tariff," which allows the CO2e of an infrastructure to be determined on a project basis (consistent with the perimeter, including limits and exclusions).

FS ENGINEERING S.p.A. has provided a GHG assertion based on the requirements of UNI EN ISO 14064-1:2019 regarding the following Technical and Economic Feasibility project:

- "POTENZIAMENTO INFRASTRUTTURALE ORTE-FALCONARA RADDOPPIO DELLA TRATTA PM228-CASTELPLANIO – LOTTO 3"

for which the value of total emissions was verified by SGS consistent with what was agreed in terms of scope, objectives and verification criteria.

SGS's approach was based on an assessment of the inherent risks and control risks associated with the GHG information management model adopted by the organization and the controls that the organization itself implements in order to mitigate these risks.

Note:

This statement was issued, on behalf of the Client, by SGS ICS Italia Srl, via Caldera 21, 20153 Milan (MI) (hereafter SGS) with reference to the document containing the "General Conditions for GHG Validation and Verification Services." The results and conclusions are based on a verification performed by SGS.

A complete copy of this statement, evidence and GHG assertion can be requested directly from **FS ENGINEERING S.p.A.**

The issuance of this statement does not exempt the Client from compliance with any EU, national or regional laws and related regulations or with guidelines issued pursuant to such regulations.

Any agreements that may be entered into by the Client with third parties in violation of the above shall not be binding on SGS and SGS shall have no liability to parties other than its Client.

