

ISO 19694-6:2023-03 (E)

Stationary source emissions - Determination of greenhouse gas emissions in energy-intensive industries - Part 6: Ferroalloys and silicon industry

| Contents | | Page |
|--------------------|--|-------------|
| Foreword | | v |
| Introduction | | vi |
| 1 | Scope | 1 |
| 2 | Normative references | 1 |
| 3 | Terms and definitions | 1 |
| 4 | Abbreviated terms | 3 |
| 5 | Determination of GHGs -- Principles | 4 |
| 5.1 | Introduction | 4 |
| 5.2 | General | 4 |
| 5.3 | Determination based on mass balance | 4 |
| 5.4 | Use of waste gas/heat recovery | 4 |
| 6 | Boundaries | 4 |
| 6.1 | General | 4 |
| 6.2 | Operational boundaries | 5 |
| 6.3 | Organizational boundaries | 5 |
| 7 | Direct emissions and their determination | 6 |
| 7.1 | General | 6 |
| 7.2 | Mass balance approach | 6 |
| 7.2.1 | Generic approach | 6 |
| 7.2.2 | Sampling | 7 |
| 7.2.3 | Alternate approach | 7 |
| 7.3 | Process emissions | 9 |
| 7.3.1 | Overview | 9 |
| 7.3.2 | Methods | 9 |
| 7.4 | Combustion emissions | 10 |
| 7.4.1 | Overview | 10 |
| 7.4.2 | Methods | 10 |
| 7.4.3 | Calculation of the quantity of fuel | 11 |
| 7.4.4 | Determination of the lower calorific value and the emission factor | 12 |
| 7.4.5 | Determination of the oxidation factor | 12 |
| 7.5 | Combustion of biomass fuels | 12 |
| 8 | Indirect emissions | 12 |
| 8.1 | General | 12 |
| 8.2 | CO ₂ from external electricity production | 12 |
| 8.2.1 | General | 12 |
| 8.2.2 | GHG from heat transfer | 13 |
| 9 | Baselines, acquisitions and disinvestments | 13 |
| 10 | Reporting | 13 |
| 10.1 | General | 13 |
| 10.2 | Reporting periods | 14 |

| | | |
|----------------------------|--|-----------|
| 10.3 | Performance indicators | 14 |
| 10.3.1 | General | 14 |
| 10.3.2 | Denominator for specific, unit-based emissions | 15 |
| 10.3.3 | Denominator for other ratio indicators | 15 |
| 10.3.4 | Key performance indicators | 15 |
| 10.3.5 | Recovery of waste gas and waste heat | 15 |
| 11 | Uncertainty of GHG inventories | 16 |
| 11.1 | Introduction to uncertainty assessment | 16 |
| 11.1.1 | Basic considerations | 16 |
| 11.1.2 | Materiality thresholds | 17 |
| 11.2 | Uncertainty of activity data | 17 |
| 11.2.1 | Measuring instruments for the determination of fuel and material quantities | 17 |
| 11.2.2 | Aggregated uncertainties in case of mass balances | 17 |
| 11.3 | Uncertainties of fuel and material parameters | 18 |
| 11.4 | Evaluation of the overall uncertainty of an GHG inventory | 18 |
| Annex A (normative) | Tier 1 emission factors | 19 |
| Annex B (normative) | Minimum frequency of analyses | 21 |
| Annex C (normative) | Country-wise emission factors for electricity | 22 |
| Bibliography | | 26 |