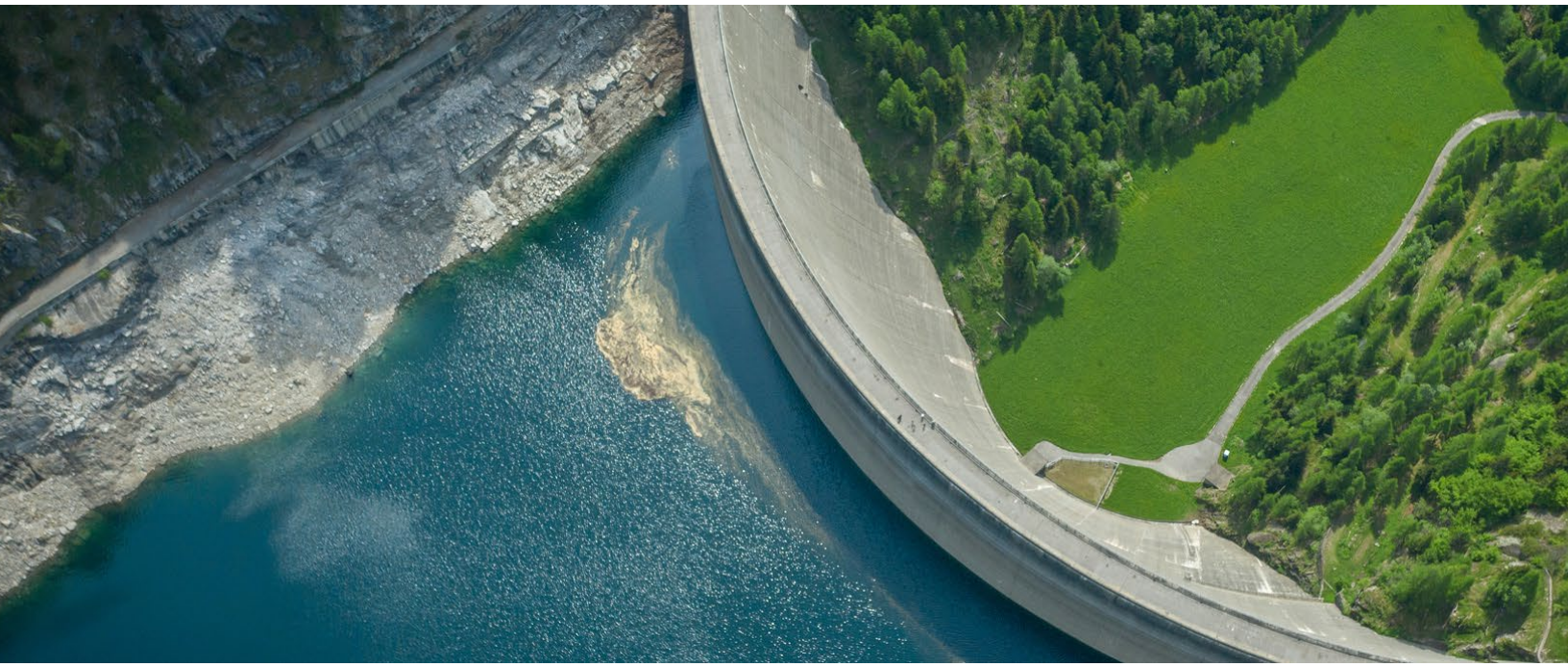
SCS Certification Standard for Product Carbon Intensity and Reduction for Chemicals and Co-products

SCS-115



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1. Introduction

1.1 Purpose

1.1.1 The purpose of the Certification Standard for Product Carbon Intensity and Reduction for Chemicals and Co-Products (hereinafter SCS-115) is to describe the requirements for a third-party certification of the greenhouse gas intensity in carbon dioxide equivalents (carbon intensity) of a chemical or co-product and the means (e.g. carbon capture and storage (CCS), renewable power) by which it has been reduced. The same products with different carbon intensities can be mixed in a controlled mass balance system. ISO 14067 and 'Together for Sustainability (TfS) provide the guidance for this Standard.

1.1.2 The SCS-115 Standard applies to:

- Any chemical material used in a product for which the operator is making a claim about the carbon intensity.[1]
- An operator who wishes to demonstrate that they have reduced the carbon intensity of a product containing chemicals or co-products.

1.2 Conformance to the Standard

1.2.1 In order to be considered conformant to this Standard, the operator shall meet all applicable requirements, including any of the following applicable modules:

- Module A: Renewable Electricity
- Module B: Biofeedstock and Recycled Content
- Module C: Carbon Capture, Utilization and Storage
- Module D: Renewable Energy
- Module E: Asset Efficiency Improvement

1.2.2 The operator shall undergo an audit against this Standard by an SCS Standards-approved certification body in accordance with the SCS-115 Certification Body Requirements.

[1] Chemical materials used in fuels are included. However, regulatory frameworks for low carbon fuels shall take precedent, where applicable.

2. Scope and Limitation

2.1 Scope

2.1.1 SCS-115 is a cradle-to-gate product carbon intensity standard.

2.1.2 This Standard can be applied to:

- All members of the supply chain (i.e., operators) who produce, or process gaseous, liquid, and solid chemicals, polymers, or plastics and the products made from them, who wish to make a claim about the carbon intensity of their product.
- Operators and suppliers of products or solutions to reduce the carbon intensity of fossil materials such as, and not limited to renewable electricity, renewable hydrogen, biobased materials, recycled materials and carbon capture utilization and storage, who wish to make a claim about the carbon intensity of their products or the carbon reduction potential of their solutions.

2.1.3 All operators who take physical possession or legal ownership of the products listed above are included in the scope of this standard, as well as traders and storage sites.

2.1.4 Brokers and transportation companies are not included in the scope of this Standard, unless they take ownership of the material for which claims are being made. Pipeline operators are not included in the scope of this Standard if the control of the sale of material being transported is under the control of the certificate holder. Emissions from transportation shall be included.

2.1.5 Products made with biobased or recycled content feedstock are included in the scope of this Standard.

2.2 Limitations

2.2.1 The verification of biobased and recycled content claims of products are not within the scope of this Standard.

2.2.2 Operators shall ensure that claims made as a result of certification to this Standard do not conflict with any applicable laws on labelling of products and the wording of environmental claims.

2.2.3 The verification of biobased and recycled content claims of products are not within the scope of this Standard.

2.3 Complaints and Appeals

2.3.1 An operator has the right to appeal a certification decision within 30 days of receiving the final report. Appeals shall be submitted to the certification body for evaluation and resolution.

2.3.2 Complaints shall be handled directly by the approved certification body. If a satisfactory resolution is not found, a complaint may be elevated to SCS Standards.

3. References

3.1 Normative References

- SCS Standards Certification and Approval Requirements
- SCS-115 Certification Body Requirements
- ISO 14067:2018, Greenhouse gases — Carbon footprint of products — Requirements and guidelines for quantification

3.2 Additional References

- Together for Sustainability (TfS), https://www.tfs-initiative.com
- RE100 Technical Criteria (RE100), https://www.there100.org/technical-guidance
- SCS 103 Certification Standard for Recycled Content
- SCS 114 Certification Standard for Biobased Content

4. Terms and Definitions

Baseline. The carbon intensity comparator used to calculate the carbon reductions achieved.

Biomass. Material of biological origin, excluding material embedded in geological formations and material transformed to fossilized material. Biomass includes organic material (both living and dead), e.g., trees, crops, grasses, tree litter, algae, animals, manure and waste of biological origin such as used cooking oil. In this document, biomass excludes peat.

Biogas. Gaseous fuels produced from biomass.

Biogenic carbon: Carbon derived from biomass.

Biofuel. Liquid fuel produced from biomass.

Carbon emissions intensity. Carbon emissions intensity refers to the amount of carbon dioxide equivalents emitted per unit of output or activity, as per Product Category Rules. The default unit is mass of CO_2 equivalents per mass of product. Also referred to as 'carbon intensity' or 'emissions factors' in the standard.

Carbon credit/certificate. Proof of purchase of a defined unit of carbon emissions reduction. Once used, the credit/certificate is retired/withdrawn and no longer available.

Certification assessment. Independent evaluation of a product claim using specific, predetermined criteria and procedures with assurance of data reliability.

Certified product. Finished product and raw materials, subassemblies, components and accessories for which a manufacturer has demonstrated full conformance to the requirements of the standard, and for which the manufacturer is therefore authorized to apply the SCS Certification Label, as evidence that the product complies with the program requirements.

Claim. Oral, written, implied, or symbolic representation, statement, or advertising or other form of communication presented to the public or buyers of products that relates to a product's environmental benefit, e.g., the carbon intensity. Claims are consistent and compliant with Federal Trade Commission Green Guides, 16 C.f.R pt.260. and the EU Green Claims Directive.

Data review period. This is typically the most recent three-year period, used for a three-year rolling average of data. This can be a shorter period, and at a minimum the most recent twelve months. The data review period shall be the same for all data included in the review. Data provided for this period shall be for materials used for saleable production only.

Fossil carbon. Carbon that is contained in fossilized material.

Final product. Product to which no further material changes are made.

Group of companies. Companies owned by the same parent company.

Majority owner. The company that holds more than 50% of the shares in a joint venture or jointly owned entity.

Mass balance. A traceability protocol to match outputs with inputs according to a specific conversion factor, within a predefined system boundary during a given time period of 3 months.

Mass balance allocation. May also be referred to as system allocation. Mass balance allocation is a chain of custody model in which certified inputs are converted to credits upon entering a system and credits (and associated claims) are attributed to physical outputs leaving the system. Credits entering and leaving the system are reconciled on a mass basis or other accepted unit conversion.

Operator. An entity that is certified (or an applicant) to this Standard.

Physical segregation. A chain of custody system in which raw materials with different origins or characteristics are kept physically separate during all operations.

Private label customer. The primary entity that purchases a SCS certified product directly from a SCS Certified Operator for the purpose of selling said product as a private label product, with only labelling additions and/or modifications. This means that the claim that accompanies the product is not further changed.

Product. A product is an item with defined materials, function, and styles. It may be associated with a specific stock-keeping unit (SKU). When considering the material basis, ancillary materials may be considered. Secondary materials may relate to type, style, fabrication method, or specific function.

Proof of renewability. Guarantees of Origin, or Renewable Energy Certificates, or Energy Attribute Certificates, with evidence that these have been cancelled and cannot be used again.

Records. Any information in written, visual, or electronic form that documents the activities undertaken by a user to demonstrate conformance with this Standard.

Renewable content. Content of a product that is made of natural resources that can be replenished, generation after generation. Examples include biomass, hydrogen produced from renewable electricity, carbon dioxide abstracted from the air using renewable energy, and oxygen and nitrogen chemically bonded to a biobased carbon atom or a renewable hydrogen atom in products certified to SCS 114.

Renewable energy. Energy from renewable non-fossil sources, namely wind, solar (solar thermal and solar photovoltaic) and geothermal energy, ambient energy, tide, wave and other ocean energy, hydropower, biomass, landfill gas, sewage treatment plant gas, and biogas.

Stakeholders. People who are, or who might be, affected by any action taken by users of this Standard. Examples include customers, workers, partners, contractors, suppliers, etc.

Standard. When capitalized, refers to this Standard (SCS Certification Standard for Product Carbon Intensity and Reduction, SCS-115).

Supplier. Organization that supplies a material, product or service to the manufacturer. Brokers are not considered suppliers unless they provide a physical chain of custody from actual suppliers.

System boundary. Boundary based on a set of criteria representing which unit processes are a part of the system under study.

Traceability. The ability to trace materials and/or products sequentially throughout a manufacturing process and/or value chain in a way that is verifiable through objective evidence.

Validated product carbon intensity. A product carbon intensity, the calculation of which has been checked by an independent third party, experienced in the validation of product carbon intensities.

Waste. Substances or objects that the holder intends or is required to dispose of.

5. Management System & Documentation

5.1 Operators shall maintain a management system that records information about all inputs and outputs, system boundary and product carbon intensity calculation according to ISO 14067:2018 and Together for Sustainability.

5.2 The following information shall be recorded as a minimum:

5.2.1 Name and address of all suppliers of raw materials and inputs with their validated carbon intensity (see 6.1.2).

5.2.2 Sustainability information accompanying each consignment of raw materials or inputs with biogenic, renewable or recycled fossil content, indicating the country of origin of the biomass raw material, biomass category or product identification, certification program and method of biobased allocation (energy or mass).

5.2.3 Copies of Proof of Renewability of any hydrogen incorporated in the product, Guarantees of Origin or Renewable Energy Certificates (RECs), with evidence that these have been surrendered/retired.

5.2.4 Carbon storage certificates and third party audited report confirming that the CCS system is operated responsibly.[2]

5.2.5 Sustainability information and certified product carbon intensity values accompanying all consignments of products from the system boundary, including the site address, sent to customers. Information on quantity of credits (e.g., RECs, efficiency improvements, CCS credits) used to reduce the certified product carbon intensity values shall be included.

5.2.6 The calculator used for the product carbon intensity calculation. The calculator shall be fully documented and made available to the certification body, together with all formulae, emissions factors and their sources. Calculations carried out by third parties are accepted, providing that the calculations, tools, and methodologies are freely available to the certification body.

5.2.7 If default or database values are used instead of calculated values, the percentage of default or database values and calculated values are to be documented on the information sent with each consignment. See Section 6.

5.3 Operators shall maintain a documented Procedure for operating any Mass Balance System as described in Section 8.4.

5.4 The Mass Balance records shall include:

a) Masses of all inputs and outputs with dates received and dispatched.

[2] See Module C for further details.

b) Evidence of an exact or positive balance at the end of the mass balance period.

c) Records of product in surplus carried forward to the next Mass Balance period.

5.5 The mass balance can extend over several sites that are wholly or majority owned by the certified operator, as long as the sites each hold valid certification to this Standard. The sites must all produce the products that are part of the mass balance system using similar technology from similar feedstocks. The system boundary chosen for the carbon intensity calculation shall be similar for each site over which the mass balance extends. Sites over which the mass balance extends do not have to be in the same country or physically connected.

5.6 Operators shall maintain a documented procedure for allocating credits/certificates for renewable energy and other measures taken outside the system, to physical outputs or products as described in Section 8. The procedure shall detail roles and responsibilities and the calculations shall be documented.

5.7 All data, its quality and validation, as described in 1SO 14067 shall be recorded.

6. Raw Materials and Inputs

6.1 Carbon Intensity of Raw Materials

6.1.1 All types of raw materials for which there is a validated product carbon intensity can be accepted by operators certified to this Standard.

6.1.2 The carbon intensity of all raw materials shall have been calculated or shall be listed in the latest version of an accepted database (see 6.1.4).

a) The calculation of the carbon intensity using supplier specific data is preferred.

b) The calculation shall have been independently verified by an expert, e.g., a qualified third-party auditor.

c) The calculation method shall be made available to the certified operator and to the auditor who is carrying out the audit to this Standard.

d) The use of credits/certificates or any type of measures to reduce the carbon intensity shall be made clear.

6.1.3 The carbon intensity or emissions factors of inputs such as electricity, natural gas, and diesel shall be specific to the region from which they originate and include transport or transmission emissions.

a) Feedstocks shall include Leak Detection and Repair (LDAR) impacts to the carbon intensity.

b) Inputs shall include site specific carbon intensity from measured data.

6.1.4 Where the use of primary data is not possible, relevant secondary database values can be used with justification and shall default to market-based residual emission factors whenever available.

Accepted databases for raw materials are EcoInvent, GREET, Sphera/GaBI, and OCI+.[3] Emissions factors issued by governments and regulators are also accepted.

6.1.5 The Operator shall be responsible for calculating transportation emissions from the point of acceptance to the point of transfer.

6.2 Raw Materials Containing Biogenic Carbon

The biobased content of raw materials shall be certified to SCS-114 Biobased Content Standard or a Standard recognised therein.

6.3 Raw Materials Containing Fossil Carbon from Waste

Materials with recycled fossil content shall be certified to SCS-103 Recycled Content Standard or a Standard recognised therein.

7. Carbon Intensity Calculation

7.1 The operator shall calculate their own site-specific contribution to the carbon intensity of the products for which they wish to make a product carbon intensity claim.

7.2 Methodology

7.2.1 The baseline calculation method shall follow ISO 14067:2018, covering all Kyoto gases and 'Together for Sustainability' (TfS) guidance. Carbon reduction measures and associated claims are calculated according to 7.5 to 10.0 and the Modules. Where any of these contradict statements in ISO 14067 or TfS, this Standard shall take precedence.

7.2.2 Methane leaks from the operator's sites shall be included in the calculation.

7.2.3 Data from the previous three years shall be averaged on a rolling basis for inventory development. For the first certification audit, a minimum 12 months of previous continuous data must be taken into account.

7.2.4 Inputs and raw materials shall be converted and accounted as actual usages based on rolling averages of data from the previous three years.

[3] Additional databases may be accepted by SCS Standards in the future and published on the SCS Standards website.

7.3 Calculation Boundary

7.3.1 Where operators are only calculating or claiming the carbon intensity for some products made on the site, then they shall define the boundary of the calculation by specifying the operating units included in the system boundary.

7.3.2 All operating units on site that produce the products, using similar technology or similar feedstocks, for which claims are being made shall be included within the system boundary.

7.3.3 If the company produces the product in several different sites, then country specific and/or site-specific data shall be used. System boundaries shall be the same for each site, where possible, and follow Product Category Rules (PCR).[4]

7.3.4 Inputs of raw materials into the operating units within the system boundary, from elsewhere on the site, shall be treated as raw materials from an external supplier, with no transport emissions.

7.3.5 Energy usage by the entire site shall be allocated to the operating units within the system boundary according to actual usage at the site or facility level.

7.3.6 Raw materials usage by the operating units within the system boundary shall be based on actual usage over the previous calendar year.

7.4 Allocation of Carbon Emissions to Products

7.4.1 The total calculated carbon intensity of the raw materials, inputs and processing operations from the units within the system boundary shall be divided between all products generated by these units, according to Product Category Rules (PCR) approved by TfS to provide a baseline carbon intensity for each product.[5] Where there is no PCR, then allocation shall be by economic value or mass, according to the guidance in TfS. Allocation can also be by energy content. The period considered shall be the previous calendar year.

7.4.2 GHG emissions cannot be attributed to wastes that are lost from the process through emissions to air, water or soil, or as unrecycled scrap or other wastage.

7.4.3 GHG emissions shall not be allocated to carbon dioxide that is captured and used as input in another process.

7.4.4 Where heat is generated within the system boundary and exported as steam or other fluids to be used elsewhere on site or sold to a different company, emissions can be allocated to the export on an energy basis.

[4] Where no PCR exist, a request to develop a PCR may be submitted to SCS.
[5] Requests for other PCRs to be recognized may be submitted to SCS Standards.

a) Emissions can only be allocated to the useful heat recovered, as determined by the efficiency of the waste heat recovery system at the site.
b) Upstream emissions shall be taken into account and the calculation shall be aligned with ISO 14067.
c) Emissions cannot be allocated to exported heat or steam at a site where energy is disposed of by routine flaring of waste gases, or where heat is provided at less than 80% of market price to another user, or where the temperature of the waste heat is below 100°C.

7.4.5 Where electricity is generated within the system boundary and exported to the grid, emissions can be allocated to the exported electricity.

a) Upstream emissions and the efficiency of electricity generation shall be taken into account and the calculation shall be aligned with ISO 14067.

7.5 Efficiency Improvements

7.5.1 Reductions in energy usage or other efficiency gains that affect the product carbon intensity shall be incorporated into the baseline calculation before each annual audit.

7.5.2 Where improvements are to site-wide services, the appropriate proportion shall be allocated to the units within the system boundary in proportion to the percentage of site-wide service they used before the improvement.

7.5.3 The operator can allocate all of the GHG savings from significant efficiency improvement(s) to a specific product for a maximum of five years. In this case, the baseline used for claims and communications for all products on the site shall be that which is applied before the efficiency gains were adopted.

a) This can occur for a maximum of five years, after which 7.5.1 and 7.5.2 shall apply without exception.
b) The updated baseline shall then apply to all products as in 7.5.1 and 7.5.2.
c) In all cases, the updated baseline shall be calculated according to 7.1-7.4 and audited every year during the five-year period. See Module E for details.

7.6 Changes to the Carbon Intensity of Raw Materials

7.6.1 The operator can purchase raw materials containing biogenic carbon, renewable, or recycled fossil content to reduce their product carbon intensity.

7.6.2 The operator can purchase low-carbon virgin fossil feedstocks (as identified by OCI+), which have very low methane losses and/or low processing emissions, to reduce their product carbon intensity. Evidence of a validated carbon intensity of these low-carbon raw materials shall be maintained.

7.6.3 Where the feedstock is certified to SCS-114 Biobased Content Standard or SCS-103 Recycled Content Standard then bio or recycled content credits can be used to reduce the baseline carbon intensity or be allocated to certain products on a mass balance basis, as described in Module B.

7.6.4 Carbon reductions from feedstocks that are not certified to SCS 114 Biobased Content Standard or SCS 103 Recycled Content Standard shall be incorporated into the baseline calculation prior to the next audit.

7.6.5 Any changes to the carbon intensity of raw materials, as notified by external or internal suppliers, shall be incorporated into the baseline calculation before the next audit.

8. Product Carbon Intensity Reduction

ISO 14067 distinguishes between product carbon intensity reduction measures implemented within the system boundary and measures which are taken outside the system. The certification requirements for these reduction methods are detailed in Modules of this Standard.

8.1 On Site Product Carbon Intensity Reduction

8.1.1 Product carbon intensity reduction from renewable energy implemented on site by the certified operator or its parent company is deemed to be within the system boundary and shall be integrated into the baseline calculation before the next audit.

8.1.2 An operator can allocate all of the GHG savings from renewable energy or other measures implemented on site, to a specific product for a maximum of five years. In this case, the baseline used for claims and communications for all products on the site shall be that which applied before the measures were adopted.

a) This can occur for a maximum of five years, after which 8.1.1 applies without exception.
b) The updated baseline shall then apply to all products.
c) In all cases, the updated carbon intensity shall be calculated according to 7.1-7.4 and audited every year during the five-year period. See applicable modules for more details.

8.2 Off Site Product Carbon Intensity Reduction

8.2.1 The carbon intensity of products can be compensated for by the purchase of credits or certificates, such as those associated with the provision of renewable electricity or carbon capture utilization and storage outside the system boundary. Such credits/certificates do not become part of the baseline calculation.

8.2.2 The credits/certificates for renewable electricity and other carbon reduction measures taken outside the system shall be applied to compensate for the appropriate mode of emissions generation occurring within the system boundary. For example: credits from renewable electricity

shall be applied to emissions caused by the production of imported electricity (see Module A for more detail).

8.3 Compensating for Emissions of the Supply Chain

8.3.1 The operator shall not compensate for emissions from its supply chain except under specific circumstances, as described in Module C.

8.4 Allocation of Credits/Certificates

8.4.1 Credits/certificates for renewable electricity, and other carbon compensation measures taken outside the system, can be allocated preferentially to certain products within the system boundary.

a) They can be applied to a fixed proportion or all of a product produced in one calendar year within the system boundary. This fixed proportion shall exceed 5%[6] (i.e., a material change) of the system boundary production by mass.

b) A mass balance system shall be maintained to reconcile quantities of the same product with different carbon intensities. The mass balancing period shall be three months. A positive balance (surplus) can be carried forward into the next mass balance period, up to a maximum of four times, after which the surplus will be lost.

9. Customer Declaration

9.1 The following information shall be communicated to the customer within 30 days of receiving a request from a customer:

9.1.1 The audited product carbon intensity according to Sections 7 and 8.

9.1.2 Details of the methodology and any Product Category Rules followed.

9.1.3 Statements making it clear where credits/certificates originating from measures taken outside the system are applied to reduce the product carbon intensity, as per 10.1.10 and 10.2.3.

10. Claims and Labelling

10.1 Product Carbon Intensity

10.1.1 Any certified operator, or private label customer, can make a claim about the verified carbon intensity of their product.

[6] 5% is considered material for world scale facilities. 5% is a minimum and operators should aim to exceed it whenever feasible. This percentage is likely to increase in future versions of this Standard.

10.1.2 The carbon intensity shall be based on a mass unit of product from the cradle (point of origin) to gate of the certified operator.

10.1.3 The claim shall specify the production year to which the carbon intensity applies.

10.1.4 The claim shall be specific to the production site.

10.1.5 The claim shall specify the item or the part of the product (e.g., packaging vs. content vs. component/ingredient) to which the claim refers.

10.1.6 Claims and logo usage shall be approved and verified by the certification body. All approved claims can be accompanied by the SCS logo.

10.1.7 An operator shall only make a change to their claim after an audit has been conducted and the new claim approved and verified by the certification body.

10.1.8 The use of credits or certificates for carbon reduction measures taken outside the system shall be made clear.

10.1.9 If the same products with different carbon intensities are mixed in a controlled mass balance system, then the term 'by mass balance' shall be added to the claim.

10.1.10 Examples of the allowed product carbon intensity claim (without credits) include:

a) The carbon intensity in 2023, from cradle to gate, of this product is X tonnes of CO_{2eq}. /tonne.
b) The carbon intensity of this plastic package is X kg of CO_{2eq}./kg (2024, cradle to gate).
c) The carbon intensity in 2025, from cradle to gate, of this product is X tonnes of CO_2eq. /tonne by mass balance.

10.1.11 Examples of the allowed product carbon intensity claim (with credits) include:

a) The carbon intensity in 2023, from cradle to gate, of this product is X tonnes of CO_{2eq}. /tonne which includes credits to compensate for Y tonnes of CO_{2eq}. /tonne.
b) The carbon intensity of this plastic package is X kg of CO_{2eq}./kg (2025, cradle to gate) which includes credits to compensate for Y tonnes of CO_{2eq}. /tonne.
c) The carbon intensity in 2025, from cradle to gate, of this product is X tonnes of CO_2eq. /tonne which includes credits to compensate for Y tonnes of CO_2eq. /tonne by mass balance.

10.2 Product Carbon Intensity Reduction

10.2.1 Any certified member of the supply chain, or private label customer, can make a claim about reducing the carbon intensity of their product, by comparing audited baselines in different years or by using certified credits/certificates according to this Standard.

10.2.2 The percentage reduction in carbon intensity shall be calculated according to one of the following formulas, where baseline year 1 is earlier and greater than baseline year 2:

10.2.2.1 Option 1:

$$\% \text{ Reduction} = \frac{\text{Product carbon intensity baseline year 1- product carbon intensity baseline year 2 X 100}}{\text{Product carbon intensity baseline year 1}}$$

In this case the allowable product carbon intensity reduction claims, where year 1 is 2023, are:

a) The carbon intensity, from cradle to gate, of this product has been reduced by X% since 2023. The carbon intensity of this product is now X tonnes of CO_{2eq}. /tonne.

b) The carbon intensity of this plastic package has been reduced by X% (cradle to gate, 2023 baseline). The carbon intensity of this product is now Y tonnes of CO_{2eq}. /tonne by mass balance.

10.2.2.2 Option 2, where credits or certificates for measures taken outside the system have been applied:

$$\% \text{ Reduction} = \frac{\text{Product carbon intensity baseline year 1 - reduced carbon intensity from credits year 2 X 100}}{\text{Product carbon intensity baseline year 1}}$$

In this case the allowable product carbon intensity reduction claims, where year 1 is 2023, are:

a) The carbon intensity, from cradle to gate, of this product has been reduced by X% since 2023 using credits. The carbon intensity of this product is now Y. tonnes of CO_{2eq}. /tonne.

b) The carbon intensity of this plastic package has been reduced by X% using credits (cradle to gate, 2023 baseline). The carbon intensity of this product is now Y tonnes of CO_{2eq}. /tonne.

10.2.2.3 Option 3, where efficiency improvements have been allocated to particular products for which a claim is being made:

$$\% \text{ Reduction} = \frac{\text{Product carbon intensity baseline - reduced carbon intensity from efficiency improvements X 100}}{\text{Product carbon intensity baseline}}$$

In this case the allowable product carbon intensity reduction claims, where year 1 is 2023, are:

a) The carbon intensity, from cradle to gate, of this product has been reduced by X% since 2023 by efficiency improvements. The carbon intensity of this product is now Y tonnes of CO_{2eq}. /tonne by mass balance.

b) The carbon intensity of this plastic package has been reduced by X% by efficiency improvements (cradle to gate, 2023 baseline). The carbon intensity of this product is now Y tonnes of CO_{2eq}. /tonne.

10.2.3 For the product carbon intensity reduction claim to remain valid, the verified reduction in product carbon intensity shall remain constant or improve at every subsequent annual audit after the earlier baseline audit.

10.2.4 In the case that the verified reduction does not conform to 10.2.3, the operator shall be reaudited, and the claim shall be adjusted to take account of the new product carbon intensity.

10.2.5 Claims and logo usage shall be approved and verified by the certification body. All approved claims can be accompanied by the SCS logo.

10.2.6 An operator shall only make a change to their claim after an audit has been conducted and the new claim approved and verified by the certification body. If an updated claim is approved, products produced after the approval shall carry the new claim.

10.2.7 The operator can use any year's audited product carbon intensity for the calculations in 10.2.2.1 and 10.2.2.2 providing that the correct year is used in the claim and that the product carbon intensity has remained constant or decreased in each subsequent year.

10.2.8 If the operator's claim arises from efficiency improvements allocated to a particular product, then the baseline for all claims concerning all products from that site shall be the year before the efficiency improvements were adopted for up to a maximum of five years, subject to 10.2.3 and 10.2.4.

10.3 Double Claiming

10.3.1 Carbon savings or credit/certificates shall not be double counted in claims for carbon intensity reduction for more than one product. Claims made at different stages of the supply chain by different companies do not constitute double claiming.

10.4 Eligibility and Conditions for Privately Labelled Products

10.4.1 Private label customers are permitted to use the certification label as a pass-through certified claim only.

10.4.2 Private label users shall obtain permission for private label use from the approved certification body and may be subject to administrative fees for using the certification label.

10.4.3 The approved certification body shall manage and monitor private label usage.

10.4.4 Private label customers are not permitted to make any changes to the final product before it is sold or embellish the claim(s) associated with the product.

Module A. Renewable Electricity

A.1 Introduction

Renewable electricity is generated from wind, solar, geothermal and hydropower in many locations worldwide. Conventional power stations have also been converted to use biomass from forests and agriculture to generate renewable electricity. Renewable electricity is also a product from a range of industrial activities such as waste management, biogas generation, and combined heat and power using renewable inputs. Recognized procurement types for renewable electricity generated off-site include Renewable Energy Certificates, or RECs, Guarantees of Origin (GO) or Energy Attribute Certificates (EAC), and Power Purchase Agreements (PPAs). A REC is produced when a renewable energy source generates one megawatt-hour (MWh) of electricity and delivers it to the grid. RECs are sold on the open market and can be bought by operators who wish to compensate for the emissions from their use of fossil generated electricity.

Operators certified to this Standard can compensate for the emissions caused by their own use of grid electricity within the system boundary, as described in Section 8, by the purchase and surrender/retirement of recognized procurement types for renewable electricity.[7]

A.2 Conditions for Use of Renewable Energy generated off site

A.2.1 Renewable Energy shall have been generated by facilities that feed electricity into a grid via a direct connection, which is interconnected with- or in the same country as that from which the site withdraws its electricity. The markets for renewable electricity recognized by RE100 are also recognized by this Standard.

A.2.2 The baseline calculation shall not include renewable energy generated off site.

A.2.3 Recognized procurement types for renewable electricity shall have been surrendered/retired, via a tracking system or registry recognized by the local or national government for carbon reporting purposes, in the same calendar year as they are counted in claims about reducing a dated baseline product carbon intensity.

A.2.4 Recognized procurement types for renewable electricity shall be valid at the date of surrender/retirement according to national or local government regulations.

A.2.5 RECs or other recognized procurement types for renewable electricity are deemed to be no longer valid five years after their issue date, or time specified by national or local government regulations, whichever is shorter.

[7] Recognized procurement types are listed in the RE100 Technical Criteria.

A.2.6 The number of RECs or recognized procurement types for renewable electricity surrendered/retired shall be equivalent to the number of MWhs of conventional electricity that is being compensated for, independent of the emissions factor for generation of the REC or, in the most part, the grid intensity. To avoid double counting, RE100 Technical Guidance shall be followed.[8]

A.2.7 Claims about reducing the product carbon intensity via RECs or other recognized procurement types for renewable electricity shall indicate that a credit has been used, as described in Section 10.2.

A.2.8 Only usage of imported electricity can be compensated for by RECs or other recognized procurement types for renewable electricity.

A.2.9 RECs or other recognized procurement types for renewable electricity can be preferentially allocated to certain products within the system boundary to reduce their product carbon intensity, up to a maximum of the GHG emissions from the electricity used in their production. For example, if a reactor producing several products is electrified, then RECs can be allocated to just one of the products, subject to limits in A.2.10.

A.2.10 RECs or recognized procurement types for renewable electricity can be allocated to a fixed proportion of a product produced in one calendar year. This proportion shall exceed 5% (i.e., a material change) of the system boundary production by mass. In the example provided in A.2.9, RECs can be allocated to a percentage of the production of a particular product, and that percentage shall exceed 5% of the production of this product from the system boundary in a calendar year.

a) In this case, a mass balance system shall be maintained to reconcile quantities of the same product with different carbon intensities. The mass balancing period shall be three months. A positive balance can be carried forward into the next mass balance period, up to a maximum of four times, after which the surplus will be lost.

A.3 Renewable Electricity Generated on Site

A.3.1 Electricity generated on site by, for example, solar panels or a biomass power station directly reduces the baseline product carbon intensity.

A.3.2 Reductions may be preferentially allocated to units or specific products for a period of five years, see 8.1.2.

[8] See, for example, FAQ 26 of the Climate Group RE100 Frequently Asked Questions (April 2022): https://www.there100.org/sites/re100/files/2022-04/RE100%20FAQs%20-%20April%202022%20update_0.pdf