Voluntary Programme on Circular Economy

Circular materials

Protocol of the Voluntary Programme on Circular Economy

Global ZERO WASTE

CERCARBONO Certified Carbon Standard

Protocol of the Voluntary Programme on Circular Economy

Version 2.0

Content

Index of tables

Index of figures

Abbreviations and acronyms

HDPE	High density polyethylene
IAF	International Accreditation Forum
ISO	International Organization for Standardization
LDPE	Low Density Polyethylene
PCL	Polycaprolactone
PDD	Project Description Document
PET (or PETE)	Polyethylene terephthalate
PHA	Polyhydroxyalkanoates
PLASTICS	Plastics Industry Association
PP	Polypropylene
PS	Polystyrene
PVC	Polyvinyl chloride
SDGs	Sustainable Development Goals
VVB	Validation and Verification Body

Foreword

Global Zero Waste and Cercarbono have formed a strategic alliance to jointly develop the Voluntary Programme on Circular Economy, whose mission is to facilitate and guarantee to individuals, companies, and the public the registration of Projects on Circular Economy Materials, the certification of emissions and the registration of Circular Credits.

This protocol has been developed by the technical team of Global Zero Waste and Cercarbono and endorsed by their CEOs.

The protocol will be updated in a timely manner to adapt it to international circumstances and the needs of the global context.

This version of the protocol (2.0) is aligned to the ISO Circular Economy Standards: ISO 59004:2024, ISO 59010:2024 and ISO 59020:2024.

1 Introduction

According to the World Bank report entitled "What a Waste 2.0: A Global Snapshot of Solid Waste Management to 2050", the generation of waste worldwide will grow by 70 %, considerably increasing pollution if proper management of this waste is not carried out. Furthermore, as the UNEP warns (2023): humanity produces more than 2,000 million tonnes of solid urban waste, of which 45 % is not managed in controlled facilities. In this scenario, Global Zero Waste, as a leading organisation in the development of international circular economy projects and standards in the flow of materials, and Cercarbono, a multidisciplinary organisation and expert in the creation of programmes and initiatives to mitigate climate change in the voluntary carbon market, have formed a strategic alliance to jointly develop the Voluntary Programme on Circular Economy, according to its Global Zero Waste and Cercarbono standards. This programme is a market-based instrument based on the carbon offset mechanism.

This protocol defines the general conditions for the development of the Voluntary Programme on Circular Economy, which is conceived as an international voluntary certification programme for circular materials[1], in which the reduction and recirculation of materials is certified (see its classification in **Section 4.2**) through circular economy initiatives carried out in different sectoral areas. This programme contributes to meeting the targets of the Sustainable Development Goals (SDGs), adopted by the United Nations in 2015 as a universal call to end poverty, protect the planet and ensure that by 2030 all people enjoy peace and prosperity. SDGs 12 states that, to achieve economic growth and sustainable development, there is an urgent need to reduce the per capita "material footprint" by changing methods of production and consumption of goods and resources, linking industries, businesses, and consumers to recycling and materials reduction, and engaging all countries in building global solutions.

The Voluntary Programme on Circular Economy uses the EcoRegistry platform, which is designed to facilitate the exchange and integration of data with other registries and contribute to the meta-registry of the international Circular Credits market in a way that prevents double counting, enabling the international transfer of these Credits between countries. In this sense, Global Zero Waste and Cercarbono carry out a comprehensiveness and precision identification of the characteristics of their credits, based on independent parameters that allow the attributes associated with each credit to be unequivocally identified.

[1] For the purposes of this protocol and the programme, materials are defined as all waste that can be used.

Accordingly, the protocol describes the formalisation process and requirements for project to obtain the issuance of Circular Credits[2] through the Voluntary Programme on Circular Economy, credits that are unique, real, and measurable.

Globally, countries are developing different regulatory or voluntary schemes to encourage compliance with materials management, in which the development of Projects on Circular Economy Materials and the purchase of Circular Credits from this type of initiative are encouraged.

In this way, projects holders, buyers, and sellers of Circular Credits, or any other entity participating in the voluntary market for these credits can be supported by adequate, dependable, impartial, transparent, and relevant validation, verification, and certification processes.

While the protocol provides guidelines for carrying out the validation and verification processes, it focuses on defining the principles governing the project registration and emission certification, and the registration and conversion of Circular Credits from the different types of projects accepted by the programme. It also describes in general terms the necessary procedures and steps for the voluntary certification process of circular materials, as well as some specific methodological aspects. However, the specific methodological and procedural aspects of the different types of projects are defined in the procedures document and in the methodologies accepted or developed by Global Zero Waste and Cercarbono.

The protocol has as its reference and conceptual basis the ISO 14020:2000, ISO 14040:2006, ISO 14044:2006, ISO 15270:2008, ISO 14001:2015, ISO 14021:2016, ISO 14006:2020, ISO 14063:2020, ISO 59004, ISO 59010 and ISO 49020 Standards; in addition, the Programme will consider and adopt the regulations set by a given country or waste offsetting mechanism.

While the Voluntary Programme on Circular Economy is conceived as a support instrument for the overall recovery of materials along the value chain through which Circular Credits finance environmental reduction and recirculation services are traded. Its purpose extends to the elimination of waste and pollution, the lifespan of products and materials, as well as the regeneration of natural systems.

Therefore, supporting the decision to end plastic pollution to preserve the health of the planet adopted at the United Nations Environment Assembly in Nairobi (Kenya) in March 2022, in this protocol has prioritised plastic materials to address their full life cycle

[2] The definition of Circular Credits can be found in **Section 4.1** where it is explained that the denomination of the credits depends on the type of material, e.g., credits from project of plastics are called Plastic Credits.

through projects, including their design, production, and the possibilities for voluntary certification of reduction and recirculation activities.

In this way, Plastic Credits can be purchased by both organisations and individual consumers to offset their plastic footprint, based on the premise that one Circular Credit is equivalent to the reduction (reject, rethink, and reduce) or recirculation (reuse, repair, refurbish, remanufacture, repurpose[3], and recycling) of one metric tonne of plastic.

[3] ISO 59004 translates this term as ***Reuse for a new purpose***. Although the programme adopts in all its documents the definition proposed by this standard, it prefers to translate the term as ***Repurpose***.

2 Programme objectives

- Develop guidelines and methodologies for voluntary certification processes for circular materials.
- Generate efficient processes for the voluntary certification of circular materials.
- Consolidate a registration system that complies with all the rigorousness that the Circular Credits market deserves, generating security and transparency of all the projects that are part of the programme.
- Guarantee transparency in the materials reduction and recirculation market.
- Promote material recirculation initiatives.
- Register and certify projects that meet the criteria set out in this protocol.
- Align projects with national and international circular economy standards and regulations.
- Facilitate the achievement of the SDGs with the implementation of the projects.
- Promote a friendly, efficient, and effective environment for stakeholder interaction.

3 Principles

The principles listed in this section establish conceptual foundations which are in line with the requirements set out under the Voluntary Programme on Circular Economy and which enable holders, developers, and Validation and Verification Bodies (VVBs) to justify or make decisions in unforeseen situations during the formulation, implementation, auditing, and certification of projects.

VVBs during validation and verification processes should explicitly note compliance with the programme principles, referencing them in audit reports and reporting any conflicts or non-compliance to the projects.

3.1 Principles to be considered by projects

Listed below are all the principles that should be considered by projects holders or developers who wish to have their initiatives certified under the programme.

Coherence

The results of project activities should allow comparisons over time between the baseline scenario and the project scenario. The calculations performed by the project must be reproducible and technically validated, so that they can generate well-supported results.

Comparability

The results obtained by the activity of reduction (reject, rethink, and reduce) and recirculation of materials (reuse, repair, refurbish remanufacture, repurpose, and recycling) should be comparable against the use of methodologies, guidelines, and protocols, among others, so that the estimation and calculation of the amount of Circular Credits achieved by the project can be evaluated.

Conservatism

The principle of conservatism applies for the parameters and refers to the values, when used in the calculations, it is more likely to result in an underestimation rather than an overestimation of the reductions or recirculations of materials. In other words, in the calculation approximation it will always be done at the lowest value.

Demonstrability

The number of Circular Credits generated must be supported by evidence demonstrating that the material reduction (reject, rethink, and reduce) and recirculation activities (reuse, repair, refurbish, remanufacture, repurpose, and recycling) was achieved.

No net harm

The activities of the projects must not generate a net damage on the surrounding areas or communities, in social, environmental, or legal aspects, due to the benefits of reduction or recirculation of materials achieved.

Preciseness

The information documented in the Project Description Document (PDD) of the project supports the reduction of bias and uncertainties as far as possible.

Transparency

The project should disclose sufficient and appropriate information related to the sources of materials generation and their management to enable intended users to make decisions with reasonable confidence.

3.2 Principles considered in Circular Credits

Circular Credits generated by projects must be:

Actual

All reductions in material contamination generated by the project must be shown to have occurred.

Additional

Circular Credits generated by projects must demonstrate additionality to participate in circular economy crediting programmes and markets. For this, projects must consider the procedures described in the methodologies for the assessment of additionality.

Independently verified

Any reduction or recirculation generated by the project must be verified to a reasonable level of assurance by an independent verification body, authorised by the programme and accredited in the circular economy sector.

Measurable

All sources of material generation and pollution reduction generated by the project, through the implementation of its activities, as well as the potential leakage it may generate, should be quantified using recognised measurement tools (including uncertainty adjustments), considering and against a credible baseline scenario.

No double counting

A Circular Credit resulting from the project activity (reduction or recirculation) may not:

- Be counted more than once to demonstrate compliance with the same pollution reduction target by material generation sources.

- Be counted to demonstrate compliance with more than one pollution reduction target by sources of material generation.
- Be used more than once to obtain remuneration, benefits, or incentives.
- Be verified, certified, or accredited through the implementation of more than one material reduction initiative.

Unique

Each material reduction or recirculation activity is associated with a single Circular Credit, corresponding to one metric tonne of materials reduced or recirculated as a unit. Credits will be issued and retired through the EcoRegistry platform.

3.3 Principles to be considered by VVBs

According to ISO/IEC 17029:2019 and ISO 14065:2020, the following principles must be considered by accredited VVBs.

Competence

Staff have the knowledge, skills, experience, training, supporting infrastructure, and capacity to perform the activities in the validation and verification processes effectively.

Confidentiality

Confidential information obtained or created during validation and verification activities is protected and not improperly disclosed.

Impartiality

Decisions taken by the VVB are based on objective evidence obtained through the validation and verification processes and are not influenced by other interests or parties.

Professional scepticism

Attitude of personnel involved in validation and verification processes, based on recognition of the potential circumstances that may cause a material error in a validation and verification statement. Therefore, any assertion made in the PDD, or monitoring report must be supported by full and reliable evidence.

Responsibility

The developer or holder, and not the VVB, has the responsibility for the declared information and its conformity with specified and applicable requirements. The VVB has

the responsibility that a validation and verification statement is based on objective, sufficient, and appropriate evidence.

Risk-based approach

The VVB must consider the risks associated with providing competent, consistent, and impartial services in the validation and verification processes.

3.4 Principles to be considered in validation and verification processes

According to ISO/IEC 17029:2019 and ISO 14065:2020, the following principles should be considered in validation and verification processes.

Documentation

Validation and verification processes are documented and establish the basis for the conclusion and decision on the conformity of the validation and verification statement with the specified requirements.

Evidence-based approach for decision making

In the validation and verification processes, methods must be implemented to reach reliable and reproducible conclusions based on objective, sufficient, and appropriate evidence. The validation and verification statement are based on evidence gathered through an objective validation and verification process.

Fair presentation

During the validation and verification processes, findings, conclusions, and statements, including significant obstacles encountered during these processes, as well as unresolved divergent opinions between the VVB and the client will be presented truthfully and with preciseness.

4 Scope

The Voluntary Programme on Circular Economy is a certification programme that establishes the conditions for the registration and certification of projects that promote the optimisation of materials, the reduction in the consumption of raw materials and the use of materials (circulating them or giving them a new life to turn them into new products). In other words, it is a facilitating means for organisations and individuals, operating in different economic sectors, to actively participate in the development of projects for the reduction (reject, rethink, and reduce) and recirculation of materials (reuse, repair, refurbish, remanufacture, repurpose, and recycling).

The conditions of the programme are defined in its normative documents: protocol and procedures, as well as in the requirements for the development of projects, implementation instructions, validation and verification guidelines, programme communications and minutes, among other documents.

This protocol has been defined for projects registration and certification of emission and registration of Circular Credits through the Voluntary Programme on Circular Economy.

Activities allowed under the programme can be submitted at programme or project level and implemented in different countries according to their domestic regulations in line with the international voluntary materials circularity market and in compliance with the provisions of this protocol.

Projects, according to their type and conditions, must use methodologies approved by the programme.

4.1 Circular Credits

Under the programme, projects can receive one-off credits called Circular Credits. Each Circular Credit represents one metric tonne of materials that would not otherwise have been reduced or recirculated (collected and utilised or valorised). Circular Credits are characterised by the principles described in **Section 3.2**, which are confirmed in the validation and verification processes. The name of the Circular Credit will depend on the type of material to which the project activity refers, e.g., credits issued for plastics will be called Plastic Credits.

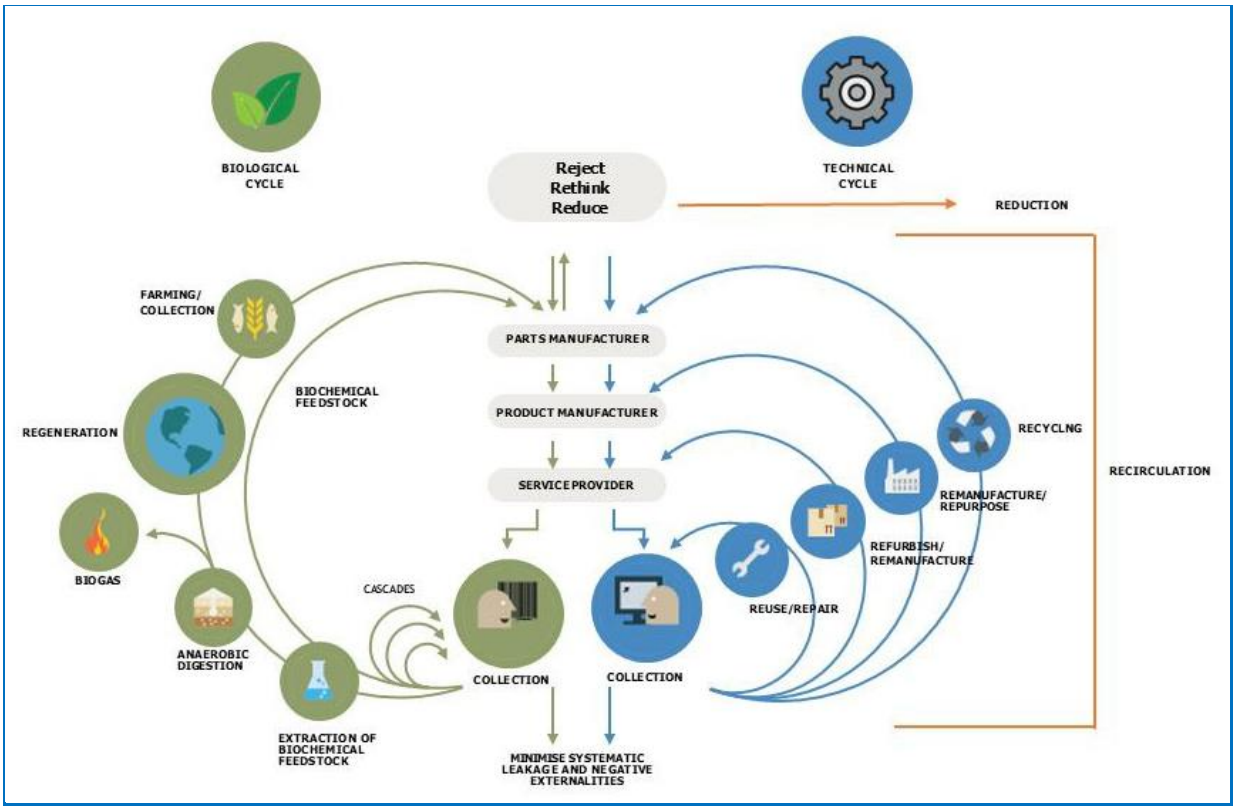
The reduction and recirculation activities that are eligible for the generation of Circular Credits are described in **Section 4.2**.

The serial number of each Circular Credit provide information on the type of reduced or recirculated material represented (see section ***Circular Credits Procedures*** in the ***Procedures of the Voluntary Programme on Circular Economy*** document).

4.2 Projects activities

For this programme, the projects can consider the activities specified in the butterfly diagram of the circular economy (**Figure 1**). For the purpose of grouping the activities of this programme the activities will be divided into two large groups called Reduction and Recirculation, which are classified into biological cycle activities and technological cycle activities. These two categories can be specifically implemented according to the 9Rs of the circular economy: reduction (reject, rethink, and reduce) and recirculation (reuse, repair, refurbish, remanufacture, repurpose, and recycling). The eligibility of these activities for Circular Credits generation depends on the methodology applied.

Figure 1. Circular economy butterfly diagram adapted from the Ellen MacArthur Foundation.



Source: Adapted Ellen MacArthur Foundation (2019).

Other activities can be included in accordance with the definition of circular economy adopted under this programme, i.e., production and consumption activities that promote efficiency in the use of materials (design for waste and pollution elimination), taking into account the regenerative capacity of ecosystems and natural systems, the circular use of material flows and the extension of lifespan through the implementation of technological innovation, partnerships, and alliances between stakeholders and the promotion of business models that respond to the fundamentals of sustainable development (Ellen MacArthur Foundation, 2013).

4.2.1 Material reduction activities

Increasing the efficiency of product manufacturing by consuming less feedstock. This refers directly to the design and production stage of products before they are consumed. It consists of conceiving products with an environmental criterion that seeks to generate less waste, which is applicable to all feedstocks.

It includes practices of research, development, and production of products using fewer resources (feedstocks, among others) and eco-design, as well as practices that lead to the generation of reusable or recyclable waste with less volume and weight.

4.2.2 Material recirculation activities

4.2.2.1 Biological cycle

Biological cycling activities include food and bio-based materials that feed back into the system through processes such as composting and anaerobic digestion, which aim to regenerate living systems (e.g., soil) that provide renewable resources for the economy (Serón, 2020). Biological cycling activities are mainly framed within biological recycling, which is a waste transformation process involving the action of microorganisms or molecules produced by them and transformed into usable resources such as compost or biogas.

4.2.2.2 Technological cycle

Technological cycle activities include activities that recover and restore products, components and materials through strategies associated with reuse, repair, remanufacture, recycling. The activities related to the technological cycle of materials are described below.

- **Reuse:** to reuse recovered materials or components thereof that are still in good condition, in functions for which they were originally designed or in related functions, without making major modifications to its physical or chemical structure.
- **Repair:** action to restore a product to a condition necessary for the product to function according to its original purpose.
- **Refurbish:** to renew an article, during its expected service life, to a condition useful for the same purpose, with at least similar quality and performance characteristics.
- **Remanufacture:** process in which used, or worn products or materials are disassembled, cleaned, repaired, and reconditioned to restore them to a state similar to that of a new product or material.
- **Repurpose:** adapt a product or its component parts for use in a different function than it was originally intended for, without making major modifications to its physical, chemical or mechanical structure.

- **Recycling:** transformation of the physical, chemical, or biological properties of materials in order to reincorporate it into a production cycle. It includes the processing of original materials (Table 1), but excludes items used for energy recovery, as fuels or for landfill disposal purposes (e.g., incineration of waste as an alternative fuel for iron blast furnaces).

Table 1. Types of recycling.

Types of recycling	Specific activity
Mechanical recycling	✓ Recycling. ✓ Finished products. ✓ Semi-finished products.
Chemical recycling	✓ Chemical feedstocks (monomers or other chemicals, gaseous, liquid, or solid).

- **Mechanical recycling:** physical-mechanical process that adds value household, industrial, commercial, official, and agricultural waste, allowing it to be used to produce new products.
- **Chemical recycling:** chemical process in which materials is converted into its original components, allowing it to be transformed into a quality raw material for the re-production of that materials.

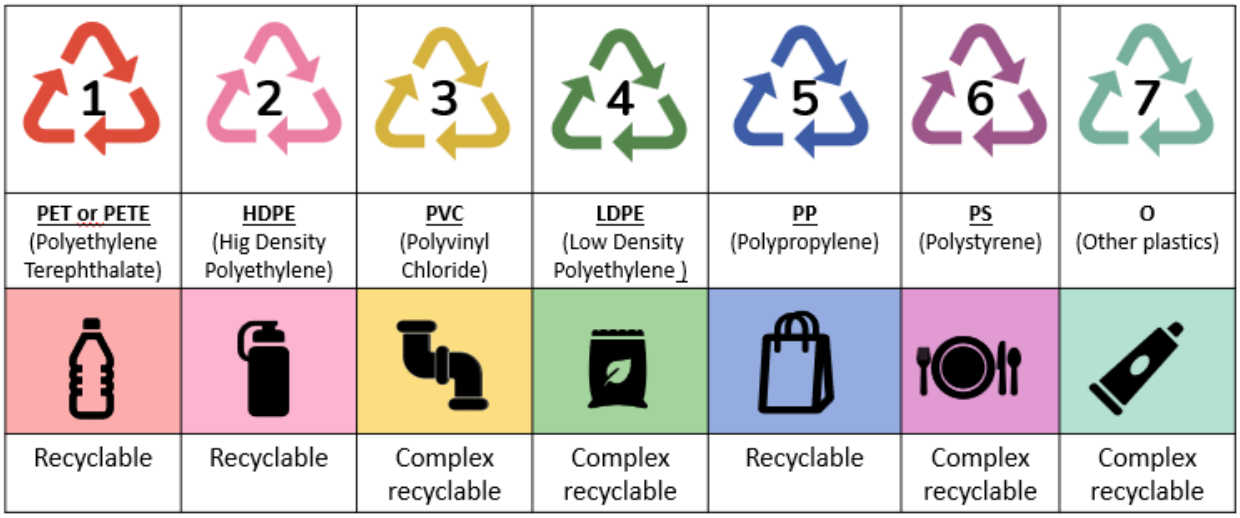
4.3 Types of materials applicable for projects

Any type of material can be eligible for Circular Credits generation as long as it applies a methodology approved by the programme and is classified within the activities defined by the programme. In this version of the protocol, specific reference will be made to plastic materials, but any project may request the inclusion of a material.

4.3.1 Plastic materials and activities

The programme includes the seven types of plastics defined internationally by the Plastics Industry Association (PLASTICS) in the United States:

Figure 2. Type of plastic.



Source: Adapted from PLASTICS.

- **PET or PETE (Polyethylene Terephthalate):** found mainly in beverage containers (bottles) (soft drinks, soft drinks, and water) and in lightweight packaging such as food packages, cream jars and other pharmaceutical uses. It can be transformed after recycling into polyester fibre, strapping, thermoforming sheets, and plastic wood, among others.
- **HDPE (High Density Polyethylene):** found mainly in non-transparent packaging such as detergent or motor oil bottles. It can be transformed after recycling into new packaging, boxes, flowerpots, litter bins, toys, pipes, parts of street and garden furniture, or new detergent bottles, among others.
- **PVC (Polyvinyl Chloride):** found mainly in shampoo or cooking oil containers, credit cards, pipes, and other building materials. It can be transformed after recycling into drainage and irrigation pipes, shoe soles, rulers, other household items, and outdoor furniture, among others.
- **LDPE (Low Density Polyethylene):** mainly found in bags and sacks (supermarket and rubbish), plastic wrap (industrial) cling film (household), and in cosmetic and sanitary packaging. It can be transformed after recycling into new bags and sacks, among others.
- **PP (Polypropylene):** found mainly in yoghurt containers, honey bottles, bottle caps, straws, portable coolers, automotive parts, fibres in some textiles, carpets, and tarpaulins. It can be transformed after recycling into plastic joists, plastic chairs, textiles, brooms, and car battery boxes, among others.
- **PS (Polystyrene):** mainly found in disposable cups for hot drinks, packaging materials, food trays, egg cups, packaging fillers, insulation, appliance parts, and toys. It can be transformed after recycling into plastic joists, flowerpots, thermal insulation, office materials, and coat hangers, among others.

- **Other plastics:** this includes mixtures of various types of plastics used in electronic goods, household appliances, industrial parts, medical articles, water fountain bottles, or mattresses. They can be transformed after recycling into nylon fibres, compact discs, or car parts.

It also includes plastics that can be degraded, changing their chemical structure, by the action of natural agents. They can be transformed into simple substances or into minor components that are eventually assimilated by the environment. Some of these are:

- **Biodegradable plastics:** "Plastics that degrade by the action of biological agents (bacteria or moulds), mainly generating carbon dioxide and water. Some of these plastics are a) polyhydroxyalkanoates (PHA), which degrade by the action of a bacterium called *Azotobacter*, generating carbon dioxide and water in the degradation process, and b) polycaprolactone (PCL), which is a biodegradable polymer obtained from petroleum (aliphatic polyester)" (Rubiano *et al*., 2011).
- **Plastics mixed with substances of plant origin:** "To facilitate the disintegration of the organic mixture (polyethylene or polypropylene plus plant material), starches from potato or maize, proteins or pectins are used as fillers. Plant molecules are hydrophilic, so water and micro-organisms degrade the plant substance, accelerating the degradation of the whole material. For example, one material generated is a biodegradable polymer from cassava starch by processing mixtures of modified starch with glycerine and water as plasticisers, using an open mill and a single screw-struder" (Rubiano *et al*., 2011).
- **Polyethenol plastic (polyvinyl alcohol):** water-soluble plastic. Used in agriculture, containers, and packaging.
- **Photodegradable plastics:** plastics that degrade under the action of solar radiation.

4.3.1.1 Reduction of plastic materials

Plastic waste reduction enables actions at the design and production stage of products, before they are consumed, to minimise the generation of plastic waste. It includes:

- **Material innovation - eco-design:** generation and use of new materials that replace products made from virgin plastic or recycled plastic. Such materials should have a shorter degradation time than plastic and not pose a threat to the environment.
- **Efficient products:** new generations of plastic products that have the same or better characteristics as the existing product, giving the same service, but using less plastic.

4.3.1.2 Plastic waste recycling

- **Mechanical recycling:** physical-mechanical process by which plastic waste (post-consumer plastic, domestic, industrial, commercial, official, post-industrial, agricultural, and other plastic waste) is recovered, guaranteeing its subsequent use

for new products. The programme considers as mechanical recycling the following activities:

- **Grinding or shredding:** grinding and sieving of previously sorted plastic waste.
- **Extrusion:** hot melting of the recovered plastic waste and cooling with water (conversion to solid state).
- **Agglutination:** technique for the recovery of recycled plastics, in which small plastic particles that have been processed or crushed are fused to form a homogeneous mass.
- **Granulation - Palletising:** cutting of the recovered plastic material into small granules called pellets or pellets. In this process, the material can be coloured with pigments.
- Other activities duly justified and described in the PDD.

- **Chemical recycling:** a chemical process in which waste plastics are converted into their original constituents, allowing them to be converted back into quality feedstock for the re-production of the feedstock.

  It involves the stages of reducing the size of the plastic waste, treating it with some combination of water, heat, pressure, or catalysts, thereby breaking down the structure of the plastic into its original constituent compounds. These can be re-used to produce resins of the same quality as the virgin feedstock or feedstock for other products. The programme considers the following activities as chemical recycling[4]:

  - Separation of plastics from other types of materials through a chemical process.
  - Pyrolysis: heating of recovered plastic waste without the presence of oxygen.
  - Solvolysis: use of solvents, temperature, and pressure to carry out reverse polymer-forming reactions.
  - Condensation of gas in the form of oils and petroleum-like products.

- **Biological recycling:** biological process in which plastic waste undergoes biodegradation of its polymers or the breaking down of its chains by the action of micro-organisms or molecules produced by them. Processes may include:

  - **Composting:** degradation and stabilisation of biodegradable plastic in the presence of oxygen by means of different micro-organisms, obtaining compost as the final product.
  - **Anaerobic degradation:** degradation of biodegradable plastic under anaerobic conditions (in the absence of oxygen) by means of microorganisms, obtaining mainly biogas as the final product.

[4] Chemical recycling activities are valid as long as the by-products are not used as fuel.

- **Enzymatic recycling:** partial degradation of plastic waste by the action of different enzymes produced mainly by fungi and bacteria, whose end product is monomers or oligomers that make up the polymer, which can then be purified by various techniques to repolymerise them and obtain new plastic materials.

Some technical standards associated with plastics recycling are listed below:

ASTM D6400-99: Standard Specification for Compostable Plastics.

ASTM D5338-98: Standard Test Method for Determining Aerobic Biodegradation of Plastic Materials Under Controlled Composting Conditions.

UNE-EN 13432:2000: Packaging. Requirements for packaging recoverable through composting and biodegradation. Test scheme and evaluation criteria for the final acceptance of packaging.

UNE-EN 14855: Determination of the ultimate aerobic biodegradability of plastic materials under controlled composting conditions.

UNE-EN 13432:2001: Packaging. Requirements for packaging recoverable through composting and biodegradation. Test scheme and evaluation criteria for the final acceptance of packaging.

DIN 54900-2: Testing of the compostability of polymeric materials.

NTC 5991:2014: Packaging. Requirements for packaging recoverable through composting and biodegradation. Test scheme and evaluation criteria for the final acceptance of packaging.

4.4 Use of protocol and programme documents

The programme refers to internationally accepted methodologies while respecting and adapting requirements, regulations, and decisions established in national contexts, being the final use or destination of the Circular Credits the one that determines its framework of action.

This protocol as well as the technical and informative documents that are part of the programme have been elaborated in Spanish and English. Projects can submit their documentation in either of these languages; however, projects are suggested to submit the PDD in English to facilitate the commercialisation of credits in the international market.

5 Methodological issues

This section describes how methodologies for the quantification of waste reduction and recirculation are developed and accepted.

5.1 Approved methodologies

The programme develops and approves methodologies, under the present protocol, in the activities of reduction and recirculation of materials, focused on the generation of Circular Credits.

5.2 Approval of new methodologies

The methodologies that may be developed and approved by the programme will be those established for materials reduction and recirculation activities, which may be presented independently or jointly, following the procedures described in the document ***Procedures of the Voluntary Programme on Circular Economy***, available at www.cercarbono.com.

5.3 Review of approved methodologies

If some specific and relevant elements of a project are not considered in a methodology, but the project activity is broadly similar to that which is applicable in the approved methodology, the project holder may submit a proposal for a review of the approved methodology, following the procedures described for this purpose in ***Procedures of the Voluntary Programme on Circular Economy*** document.

If the review is approved, it will become the new version of the methodology and the previous version will become obsolete.

5.4 Request for methodological deviations

A project may request a methodological deviation when the procedures established in the selected methodology do not cover some specific circumstance(s) of the project; this methodological deviation is requested through the registration platform, EcoRegistry, in the Formulation Stage and based on its grounds the programme decides whether to "approve" or "not approve". The programme performs a detailed evaluation of the deviation considering the methodological adjustments proposed by the project and if the deviation is approved, the project will move to the Public Comment Stage. If the deviation is not approved, the programme will generate a change request where the project holder or developer must correct this requirement in order to continue with the process.

If such a deviation was not requested in advance and the VVB determines at verification that the project has deviated from the provisions of the methodology or monitoring plan, the VVB will request the project to describe the deviation and alternative means of compliance through an updated monitoring report and will assess whether the deviation

is likely to lead to an inaccuracy in the calculation of material reduction or recirculation. If the VVB considers that the deviation leads to such inaccuracy, it will request the project to apply conservative assumptions or discount factors to the calculations to ensure that the material reduction or recirculation is not overestimated due to the deviation.

Methodological deviations should not be used to rectify intentional errors, deficiencies, or improvisations in the planned implementation of projects.

5.5 Request for methodological clarification

If an approved methodology is unclear or ambiguous in its methodological procedures, a written request for clarification can be submitted and must also be answered in writing by the programme technical team.

6 Requirements for projects

This section describes the different requirements and technical characteristics that projects wishing to be part of the Voluntary Programme on Circular Economy, based on the standards ISO 14020:2000, ISO 14040:2006, ISO 14044:2006, ISO 15270:2008, ISO 14021:2016, ISO 14006:2020, ISO 14063:2020, ISO 59004, ISO 59010 e ISO 59020, and CEN/TR 15353:2007.

Compliance with each of these requirements is reviewed by the programme for compliance with the validation and verification processes (independent or joint) by the authorised VVBs (**Section 7**), thus ensuring the traceability of each project. The project must identify, consider, and use relevant and available criteria, or procedures for each stage of the project cycle described in **Section 8**.

6.1 Project holders

Project holders are organisations that have overall control and responsibility for projects to the programme. A project may have one proponent or several proponents, as it is possible for a proponent to partner with a developer and submit a project, as long as there is an agreement between the parties.

The project proponent is responsible for providing the PDD, monitoring report, and supporting documentation (including evidence of project holdership) to facilitate validation and verification.

6.2 Components of the project

The project should develop a PDD in which the following elements are presented:

- Title and objective(s) of the project.
- Information on the holder and other project participants, where applicable, detailing their roles and responsibilities, including contact and stakeholder information.
- Type of materials that will be reduced or recirculated by the project.
- Description of the project activity, including the specific types of materials considered.
- Justification as to why the proposed project is considered additional.
- Location (kml format or georeferencing coordinates link like google maps) and boundaries of the project, including organisational, geographic, and physical location information, allowing for unique identification and delimitation.
- Detailed description and support of the holdership or right of use of the area, facility, or process. The right of use can be demonstrated, inter alia, by means of lease, or long-term mandate contracts, or peaceful possession, among others, which are free from legal defects.
- Characteristics and conditions prior to the start of the project of the area, facility, or process.

- Report on the contribution of the project to the SDGs, with special emphasis on SDG 12.
- Voluntary measurement of the organisation's internal circularity.
- Project technologies, products, and services, and the expected level of activity.
- Description and justification of the methodology selected and applied for the quantification of material reduction or recirculation, as appropriate to the project activity.
- Identification of sources of project materials in the baseline and project scenarios, estimated in metric tonnes.
- Reduction or recirculation of materials in the baseline scenario, estimated in metric tonnes.
- Quantification of material reduction or recirculation in metric tonnes.
- Monitoring plan. The monitoring plan is designed following the approved methodology that was selected for the development of the project.
- Authorisations and documents required by applicable legislation (including environmental legislation and their respective environmental impact assessments in line with the No Net Harm principle, where applicable) governing the development and operation of the project, depending on the type of project.
- Relevant results of stakeholder consultations and mechanisms for ongoing communication, if applicable. Include definition of when and how affected or involved persons should be consulted.
- Chronological plan or actual dates and justification of the following:
  - Lifespan of the project (in years): indicating the start date (day.month.year) of the activities and the end date of the project (day.month.year).
  - The accreditation period of the project.
  - The project monitoring period, its frequency and reporting, including relevant project activities at each step of the project cycle, as appropriate.
  - The frequency of verification events, including the periods in which they are intended or performed.

6.3 Holdership of the project

The project holder must demonstrate that they have the legal right to control and operate the project activities. The PDD must include some of the following documents as evidence a document issued by a competent authority evidencing the holdership of the project facilities or their legal right to the respective use by means of lease contracts or similar.

6.4 Project start date

The programme will allow a retroactivity of three years from when the project has been published in the EcoRegistry platform (Stage: Formulated), both for the start of the material reduction or recirculation activity and for the generation of credits.

This condition does not apply in the case of projects that have been duly registered in other standards or certification programmes, and migrate to the programme, in which case the project may have been under implementation for longer periods of time, provided that no more than five years have passed since the time of its last verification. The start of operation is understood as the moment when the activity starts managing materials.

6.5 Description of the methodology

A project must select a methodology (if it is a grouped project or includes activities not covered by a single methodology, but complementary to its activity, it may select more than one) to demonstrate its material (waste) reduction or recycling results, which must be adopted in accordance with the type and characteristics of the project to which it corresponds and with the regulation under which it falls.

The protocol allows the use of methodologies and their components, as well as complementary methods, modules, or tools (always implementing their latest version). Methodologies include those:

- Recognised in international and national contexts according to the project activity, aligned with their current legal framework. For acceptance, the programme's technical team assesses the soundness of the methodology and its alignment with the programme's principles and procedures.
- Additional ones developed by interested stakeholders (developers, holders, or independent companies) under public consultation processes supported by the programme.
- Global Zero Waste and Cercarbono's own methodologies, publicly consulted and reviewed by a third party.

The regulations, procedures, tools, and methodologies accepted under the programme will be listed on www.cercarbono.com. Those methodologies, methods, modules, or tools that are not listed above but meet the above characteristics can be submitted for consideration by the programme upon request.

Methodologies and tools from standards or certification programmes in the public or private domain may be used if credit is given, and copyright and licensing regulations (where applicable) are complied with. In order to avoid conflicts with other standards or certification programmes, it is encouraged to use the methodologies or tools developed by the programme, which must also be duly referenced in the project documents.

The projects must establish and justify the conditions of applicability of the selected methodology or methodological tools for:

- Determine additionality in any of the activities defined in the programme scope.
- Determine the baseline and project scenarios.
- Quantify the reduction or recirculation of materials.
- Conduct the project monitoring.

The methodologies usually integrate the following points; however, the most important components that must be fulfilled under the programme's framework are detailed here:

6.5.1 Additionality

Additionality criterion established by the programme is detailed in the methodologies.

Compliance of this criterion is reviewed by the programme after validation events and at each project re-accreditation event as detailed in the document ***Procedures of the Voluntary Programme on Circular Economy***.

6.5.2 Establishing the baseline scenario

The project must determine the baseline scenario according to the selected methodology, considering all possible alternatives, including the proposed project as one of the possible scenarios. If the project is equal to the baseline scenario, the project is not valid because it is not additional.

The project must apply criteria and procedures to identify and justify the baseline scenario, considering the following:

- The description of the project, including all sources of material (waste) generation.
- Types, activities and technologies of existing and alternative projects that provide an equivalent type and level of activity of products or services for the project.
- Data availability, reliability, and limitations.
- Other relevant information on present or future conditions, such as regulations or laws under which it is governed, technical, economic, socio-cultural, environmental, geographic, site-specific, and temporal assumptions or projections.

The project must demonstrate functional equivalence in the type and level of activity of the products or services provided between the baseline and project scenarios and should explain, as appropriate, any significant differences between the two.

The project must select and justify assumptions, values, and procedures that ensure that material reduction or recirculation is not underestimated or overestimated, respectively, in the baseline scenario.

6.5.3 Establishment of the project scenario

The project must provide a description of its activity, and the means used to achieve the material reductions or recirculations consistent with the selected methodology.

A project developed for material reduction should include:

- The description of the activities according to the area of influence in order to delimitation and establish a baseline scenario.
- Description of reduction activities in product design and development.
- Description of research, development, and production activities where minimisation in the use of feedstocks is reflected.
- Description of activities where potentially reusable or recyclable materials are generated.
- Information on the technologies, systems, equipment, or tools implemented in the area for the realisation and management of reduction processes, reflecting their efficiencies and capacities.
- Information on the strategies and the role of the actors involved in the design and development processes of products that involve reduction in their production line.
- Quantification by type of material subjected to reduction processes during the development of the project.
- The description and justification of the selection of criteria, procedures, and methodologies for the quantification of reduced materials during the implementation and operation of the project.
- The description of the criteria and procedures to demonstrate the additionality of the project.

A project developed for the recirculation of materials should include:

- A description of the activities according to the area of influence to delimitation and establish a baseline scenario.
- A description of the main recirculation technologies, systems, and equipment involved, including information on the age and average lifespan of the equipment according to manufacturer's specifications and industry standards, as well as existing and expected capacities, load factors, and efficiencies.
- The types and levels of services provided by the systems and equipment being modified or installed and their relationship, if any, to other manufacturing or production equipment and systems outside the limits of the project. Describe how this would have been done in the baseline scenario.
- If applicable, a list of the facilities, systems, and equipment in operation under the existing scenario prior to the implementation of the project.

The project must describe the selection or establishment of criteria, procedures, or methodologies to quantify material reductions or recirculations during the

implementation and operation of the project. It should also detail the criteria and procedures for quantifying them and demonstrate that they are additional to what would occur compared to the established baseline scenario.

The possible baseline and project scenarios should cover the same period.

6.5.4 Identification of material sources

The project must select and apply criteria and procedures for estimating or monitoring material sources, using appropriate and reliable data, providing justification for not selecting an identified optional material source for monitoring, according to the criteria of the selected methodology. Monitoring methods and procedures must be consistent with the selected methodology(ies) and the monitoring plan described in the PDD.

The project must use direct measurement or estimation methods to identify and select sources of materials for subsequent quantification if these are dependable and verifiable. In any case, the criteria used in their selection must be consistent with the principles set out in this protocol.

6.5.5 Quantification of material reduction or recirculation

The materials reduced or recirculated by the project are the basis for the Circular Credits that can be emitted. Materials reduced or recirculated are quantified according to the methodology(ies) applied.

The project must establish the criteria, procedures, and methodologies for quantifying the reduction or recirculation of materials, always presenting total mass data in metric tonnes according to the type of project[5] activity.

The baseline scenario is estimated for the total duration of the project and should be based on the principles outlined in **Section 3.1**.

All projects must:

- Quantify the net quantity of materials reduced or recirculated.
- Use metric tonnes as the unit of measurement.
- Classify the materials by clearly describing the quantities reduced or recirculated by material type, to be able to differentiate the credits by material type in its serial number. For the specific case of plastics, the classification should match the classification presented in **Section 4.3.1**.

6.5.6 Methodological reviews and deviations

[5] The projects activities are described in **Section 4.2**.

The project may request a deviation from an approved methodology if:

- The deviation does not adversely affect the conservative principle of the methodology.
- The deviation does not represent a violation of the regulatory framework applicable to the project activity.

6.6 Monitoring the project

Once the project has identified the sources of material generation and recirculation, it must identify the data or parameters related to these, which are estimated or quantified based on actual measurements to calculate the baseline and project scenarios. The data collected at the formulation stage helps to quantify the material generation, reduction, and recirculation of the baseline scenario and the data collected after the implementation of the project helps to quantify the material generation (including detected leakage), reduction and recirculation of the project.

In this regard, the project must establish a monitoring plan that includes procedures for measuring or estimating, recording, compiling, and analysing data and information important for quantifying the sources of material generation, reduction, and recirculation to establish their relevant reductions and recirculations in the project scenario. The monitoring plan should include the following, as appropriate:

- Purpose of monitoring.
- List of parameters measured and monitored.
- Types of data and information to be reported, including units and time scale of measurement.
- Source of data.
- Monitoring methodologies.
- Frequency of monitoring of the different variables and components, considering the needs of stakeholders.
- Definition of roles and responsibilities, including procedures for authorising, approving, and documenting changes to recorded data.
- Controls including internal assessment of input, transformation and output data, and procedures for corrective actions.
- Material information management systems, including location and retention of stored data and data management including a procedure for transferring data between different forms of systems or documentation.

The nature of the information available for the project determines whether material reductions and recirculations are estimated or quantified based on actual measurements. Normally, prior to the implementation of a project, reductions and recirculations are estimated (*exante* assessment), whereas, during the implementation of the project, they can be monitored and measured directly providing actual data for quantification (*expost*

assessment). Monitoring and measurement can therefore be carried out 100 % or based on a sampling scheme depending on the nature of the data sources.

Where measuring and monitoring equipment is used, the holder of the project must ensure and have evidence to demonstrate that it is used and maintained calibrated or verified, as appropriate, in line with its manufacturer's or user's manual. Material monitoring criteria and procedures are applied in accordance with the monitoring plan.

When the project, after monitoring (before or after a verification event), identifies significant changes in the results of its activity, the VVB must perform an assessment of the project scenario.

The most important elements of this step can be found in the ***Monitoring Report*** template.

6.7 Grouped projects

Grouped projects are projects implemented under one or more methodologies (but without employing parts, or calculation, or monitoring methods of several methodologies for the same project activity), focused on the reduction or recirculation of materials in a specific area or facility and period, which are structured to allow for the addition of one or more instances of the reduction or recirculation activities or their extension after initial validation.

The grouping and applicability criteria must be explicitly defined in advance in the PDD, to allow for the addition of new participants and implementation instances that are not known at the start of project implementation. The implementation of a grouped project allows not having to perform a separate registration, validation, and verification process for each new implementation instance, facilitating the future expansion of the project and the reduction of its transaction costs.

Some examples of grouping criteria are presented below:

- Implementation instances by the same participants of the initial project (e.g., expansion of the same company).
- Admission of new partners to an existing associative institution (e.g., a cooperative, which is the holder or developer of the project).
- Expansion of an incentive or support programme with defined rules from the beginning (e.g., an international cooperation project).

The rules for the inclusion of new participants or instances of implementation (applicability criteria) must be established from the initial design of the project and cannot be changed afterwards. Specifically, the following criteria must be considered:

- The geographical scope in which implementation instances can be aggregated must be defined from the validation stage of the project and cannot be modified afterwards.

Under no circumstances can activities implemented in more than one country be grouped together.

- The number of implementation instances that can be added to a grouped project is unlimited.
- Implementation instances that adopt technologies or processes different from those established during the project design cannot be included.
- The inclusion of new implementation instances does not extend the lifespan of the project, nor does it affect the accreditation period.
- The start of activities of each implementation instance can be retroactive to the date of the previous verification of the project, starting from the second verification.
- The implementation instances must meet all applicability and other requirements set out in this protocol and in the methodology selected for the initial implementation of the project.

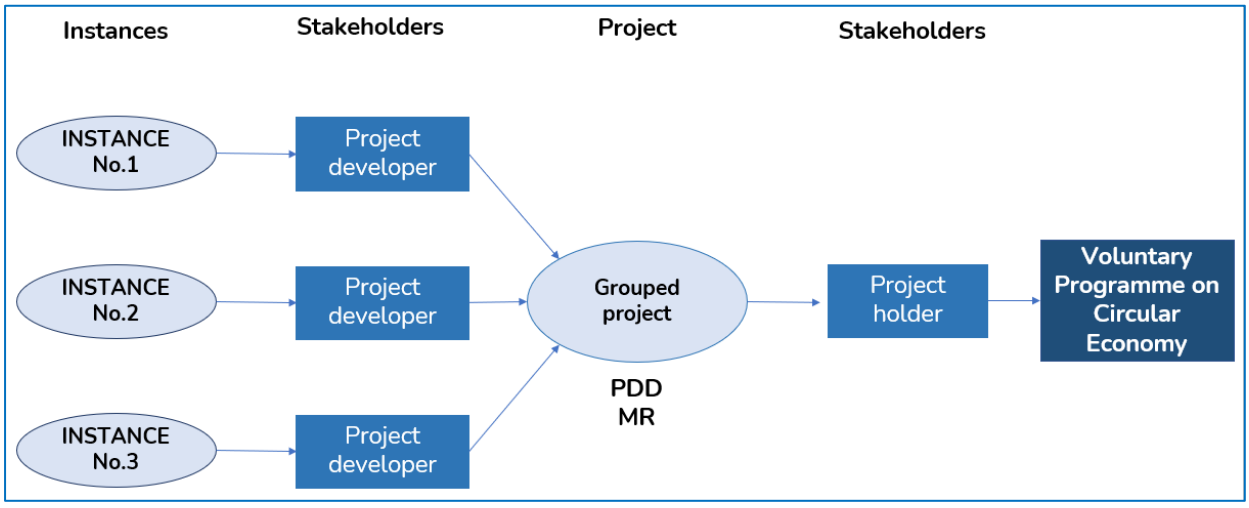
The inclusion of new instances of implementation should be done by validating them during project verifications.

The VVB in charge of verification must assess the compliance of each of the implementation instances with the selected methodology and the relevant rules set out in the programme.

An additionality analysis needs to be conducted for the implementation instances to be added to the project, considering the potential baseline scenarios that correspond to the situation at the time of addition of the implementation instances.

The baseline and project scenarios need to be updated to include the effect of both on the project by adding the information of the new implementation instances; it is not necessary to recalculate the calculations for the implementation instances that were already in operation.

Figure 3. Grouped project.



PDD: Project Description Document.
MR: Monitoring Report.

6.8 Programme of Activities on circular economy

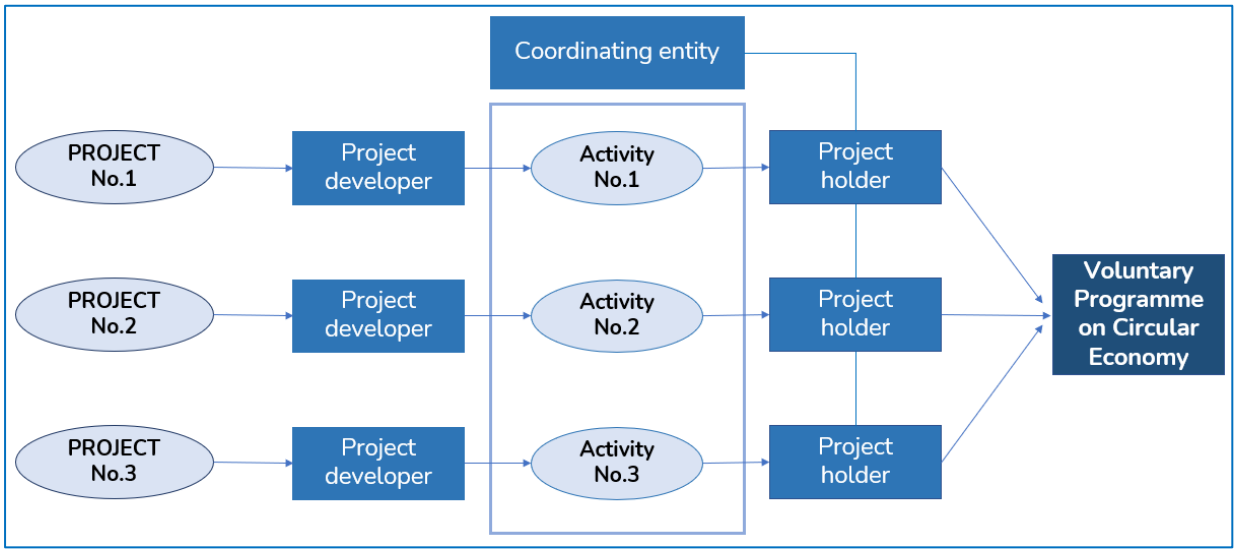
To facilitate and streamline the process of registering and validating project activities that can be implemented by multiple actors in a coordinated but independent manner, Voluntary Programme on Circular Economy allow a Coordinating entity to manage them independently through a Programme of Activities on Circular Economy. Programme of Activities allow for the inclusion of an unlimited number of new circular economy programme activity throughout their duration, while complying with the applicability requirements set by the selected methodology(ies).

To this end, the Coordinating entity of the Programme of Activities must submit a Project Description Document (PDD), in which the general parameters of the Programme of Activities and the rules for the inclusion of new circular economy programme activities are defined, considering that:

- The geographical scope in which programme activities can be aggregated must be defined from the validation stage of the project and cannot be modified afterwards. In no case can programme activities be aggregated in more than one country.
- The start of activities of each programme activity after those registered at the start of the Programme of Activities can be retroactive to the date of the previous verification of the Programme of Activities, starting from the second verification.
- Programme activities may use any methodology approved by Voluntary Programme on Circular Economy.
- Programme activities must meet all applicability and other requirements set out in this protocol and in the methodology selected for initial project implementation.
- The inclusion of new programme activities can be done at any time within the lifetime of the Programme of Activities.
- Each programme activity establishes its own accreditation period and lifespan, following the rules established for projects in this protocol. However, this accreditation period may not exceed the lifetime of the Programme of Activities.
- The verifications of each programme activity can be carried out separately, always complying with the rules established in this protocol for projects.

The VVB in charge of verification should assess the compliance of each programme activities with the selected methodology and the relevant rules set out in this protocol.

Figure 4. Programmes of activities on circular economy.



6.9 Accreditation period

The lifespan of the project is established by the holder or developer, who must provide support for this duration, which includes, but is not limited to, action or management plans (for processes, machinery, equipment, human resources, financial resources, among others) and lifespan of areas, machinery, and equipment, among others. During the validation and verification processes, the VVB must assess and support the legitimacy of the lifespan of the project, which is reviewed by Voluntary Programme on Circular Economy during the certification stage.

To demonstrate the reduction or recirculation of materials, projects can establish a minimum lifespan of 10 years, which cannot be modified afterwards. The start of implementation of the project activity determines the start date of the project lifespan and thus the start date of the project accreditation period.

The holder or developer chooses the start date of the accreditation period (day.month.year), counted from the moment he generates the reduction or recirculation of materials. The projects accreditation period is 10 years, renewable once for a maximum of 10 years. In the case of Programmes of Activities, it will be a maximum of 20 years.

6.10 Renewal of the accreditation period

After the initial accreditation period, if the project has not yet reached the limit of its lifespan, the accreditation period can be renewed by submitting the ***Application for Renewal of Accreditation Period*** form, available at www.cercarbono.com. The project can be renewed once for a period of maximum 10 years or for a shorter period if the lifespan of the project is not exceeded. The renewal of the accreditation period must be done by means of a new validation statement, in which it is analysed if the project

continues to be additional and continues to comply with the requirements of this protocol.

Compliance with the additionality criterion is reviewed under verification and certification events throughout the project accreditation period. If changes in project implementation affecting this criterion are detected by project or VVB, the PDD must be updated, reassessing the baseline and project scenarios to demonstrate project additionality, supported by a new validation event within the established accreditation period.

6.11 Safeguards

Project activities must be developed with an approach that ensures environmental protection and social well-being, avoiding negative impacts and promoting multiple benefits. This integration of environmental and social safeguards reinforces the project's commitment to a responsible and sustainable circular economy.

Safeguards aim to ensure that project implementation does not cause net harm to the surrounding areas or communities by adopting preventive, corrective, and compensatory measures. The programme establishes guidelines in the PDD and monitoring report that projects must consider, including:

a. **No net harm:** project activities must be designed in a way that does not increase negative environmental impacts or violate social rights.
b. **Transparency and participation:** the project must promote stakeholder consultation and effectively involve communities in identifying and managing impacts (see **Section 6.13.1**).
c. **Regulatory compliance:** projects must adhere to current environmental and social legislation as well as international commitments.

These guidelines must be assessed by the VVB at each verification event during the lifetime of the project.

6.11.1 Impact assessment and management

The PDD must include a comprehensive assessment of environmental and social impacts, considering direct, indirect, and cumulative effects through:

a. The identification of potential sources of impact.
b. The quantification of effects on air, soil, and water quality, biodiversity, and social aspects such as health, employment, and the quality of life of communities.
c. The definition of mitigation, corrective, and compensatory measures to ensure the minimization of these impacts.

6.11.2 Safeguard responsibility

Compliance with these safeguards will be the responsibility of the project holder, who must document and report the project's environmental and social performance at each verification event. This information must be reviewed by the VVB.

6.12 Contribution to the Sustainable Development Goals

Considering the circularity of the projects implemented under the programme, they should at least contribute to the fulfilment of SDG 12 target 12.5.

SDG 12. Responsible consumption and production: to achieve economic growth and sustainable development, there is an urgent need to reduce the ecological footprint by changing methods of production and consumption of goods and resources; industries, businesses, and consumers should be encouraged to recycling and reduce waste and developing countries should be supported to move towards sustainable consumption patterns by 2030.

In line with this SDG, specifically with target 12.5, which specifies that: “By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse”, Global Zero Waste and Cercarbono cooperate for companies to offset their material footprint and support holders and developers of projects that directly contribute to meeting the SDGs.

Contributions to the SDGs should be reported with the results generated by the project activity by completing the ***Tool to Report Contributions of Circular Economy Initiatives to the Sustainable Development Goals***, available at www.cercarbono.com, prioritising SDG 12.

The application of the tool should be reviewed by the VVB at validation or verification events. Actual contributions to the SDGs by project can only be reported and reviewed at verification events.

6.13 Effective participation

This section presents the different settings in which the programme facilitates the interaction between the different actors involved in the voluntary market for circularity of materials for the formulation, development, and transparent implementation of projects, in a way that ensures their full and effective participation in accordance with the procedures under which they operate.

Some of these environments are public consultations, which, as a planning mechanism, allow the effective participation of these actors. In this sense, the programme has three types of consultations that must be considered by the different stakeholders and that are implemented according to the project activity and its requirements.

In addition to the consultations, the different actors can also participate in the FAQ and contact spaces, which are available at www.cercarbono.com. These spaces for effective stakeholder participation are detailed below.

6.13.1 Projects public consultation

According to the applicable legal regulations, if the project is developed in an area where a local population is established or when the project activity may have an environmental, social, or economic impact on local populations or society in general, a public consultation by the project with interested parties is required.

The objective of this consultation is to meaningfully engage stakeholders to discuss the potential environmental, social, and economic impacts (both positive and potential risks) that these may have during the design, planning, implementation, and operation stages of the project and to establish a feedback mechanism in consultation with stakeholders. The holder of the project must report on all mechanisms used for the dissemination of full and relevant consultation information.

For the consultation, the project must prepare and make available to stakeholders a project description document, which must:

- Identify stakeholders, which may include a map of actors or organisations, an institutional map of governance structures or institutions and leaders associated with decision-making in the territory, related to project activities, identifying agreed decisions (and their follow-up) with local governance structures.
- Establish a plan or schedule of meetings for decision-making around the project.
- Establish a mechanism for petitions, complaints, grievances, and requests and their traceability.
- Establish a protocol for handling conflicts when they arise.
- Generate an agreement document that is signed by stakeholders for the development of the project.

If public consultation is not necessary, the holder must justify the reason for not carrying it out.

6.13.2 Public consultation of documents, tools, and methodologies developed by Global Zero Waste and Cercarbono

Global Zero Waste, Cercarbono, and other interested stakeholders operating in the context of Circular Credits can submit methodologies, methods, modules, or tools for public consultation. For this purpose, the programme has a space at www.cercarbono.com where any of the above-mentioned documents can be made available for public consultation for a minimum period of 30 calendar days.

Once the consultation periods are closed, the responses given to each of the comments received are permanently published in the same section.

The approval of new or already developed methodologies is detailed in the document ***Procedures of the Voluntary Programme on Circular Economy***.

6.13.3 Comments on projects

To receive requests, claims, complaints, or requests (anonymous or from an identified source) on the projects registered in the programme, a permanent space has been set up at www.cercarbono.com, section: Consultations/Comments on projects. In this section, projects that have been registered are listed for 30 calendar days.

The comments received are analysed by the certification team, which takes care of the due process, and duly archived, together with the generated response (if applicable) on the EcoRegistry platform as confidential documentation.

In addition, to comment or make requests, claims or complaints about specific projects outside this period, the **Grievance Mechanism** is available at www.cercarbono.com, section: About Us.

6.13.4 Frequently asked questions and contact

On www.cercarbono.com there are two spaces that are key for effective communication between interested stakeholders and the Voluntary Programme on Circular Economy.

1. **Frequently asked questions:** in this space there are questions and answers relevant to the formulation, development, and implementation of the projects, as well as to the contextualisation of actors around the Circular Credits. Questions and answers are constantly updated.

2. **Contact:** in this space, the different actors of the voluntary market of circularity of materials can bring their doubts, questions, or specific comments, not referring to specific projects, through the means of communication referenced there.

6.14 Legal and documentary management

Projects must retain all documentation and records generated to demonstrate that the project activity has been implemented as designed. Any deviation of the implementation from the design must be solidly justified. Therefore, the project must have documentation that demonstrates its compliance with the requirements of this document. This documentation must be consistent with the validation and verification needs of the programme, considering the guidelines of ISO 14033:2019 which calls for:

- Establish and maintain a comprehensive reporting system.
- Conduct regular internal audits and technical reviews.

- Adequate training for project team members.
- Conduct periodic verifications to detect technical errors.
- Conduct uncertainty assessments.

The holder of the project must have documentation demonstrating compliance of the project with this protocol. This documentation must be consistent with the validation, verification, and certification processes. The EcoRegistry platform supports all information from the entire project cycle generated by those responsible for each stage of the project.

6.14.1 Management of legal requirements

The project must list, describe, and justify compliance with governing laws, statutes, and regulatory frameworks (local, regional, and national) that apply to the project activity, including applicable environmental requirements and the registration of specific project actions in the national registration system, where applicable.

In addition, the project holder must accept on the EcoRegistry platform the declaration that their project has not been registered for Circular Credits under any standard or certification programme, nor for the reduction (reject, rethink, and reduce) or recirculation (reuse, repair, refurbish, remanufacture, repurpose, and recycling) of materials required by a particular legal or regulatory framework and that, if registered by the programme, it will not seek partial or full registration of the project under any other standard or programme.

6.14.2 Data quality management

The project must establish and apply data and information quality and management procedures, including information relevant to the baseline and project scenarios, as stipulated in the selected methodology.

6.15 Measuring internal organisational circularity

Organisations submitting a project to the programme are recommended to assess their circular economy performance and produce a small report based on ISO 59020 on a completely voluntary basis as a separate chapter in the PDD. This report allows measuring the level of circularity of processes, products or services, providing a reliable framework for identifying opportunities for improvement and communicating progress in terms of the organisation's own circularity beyond its activities to be certified.

Reporting must follow the guidelines set by ISO 59020, which provides a structured approach to assess key metrics related to circularity. Companies must collect relevant data on resource use, material reuse and internal waste reduction beyond the activity to

be certified, among other aspects. This data is then analysed and presented in a clear manner, facilitating the understanding of current performance and future targets.

Although not a mandatory requirement, this report represents a valuable opportunity for organisations seeking to improve their resource management and demonstrate their commitment to sustainability. Furthermore, because it is voluntary, it allows each organisation to determine the timing and scope of the analysis according to its internal needs and capabilities.

Adopting this approach is a strategic decision that can strengthen a company's credibility, improve operational efficiency and stand out in a market that demands transparency and environmental responsibility.

7 Authorised validation and verification bodies

The Validation and Verification Bodies (VVB) authorised by the programme must ensure that they are accredited by an International Accreditation Forum (IAF) signatory member accreditation body or other organizations recognized internationally which have in its service offering the Validation or Verification Body accreditation programme for circularity of materials.

In national contexts, VVBs authorised by the programme must be accredited with the national competent authority.

VVBs are required to issue a validation report and validation statement supporting the baseline and project scenario, and a verification report and verification statement indicating that the reduction or recirculation achieved by the project was generated in accordance with the selected methodology and criteria defined in this protocol.

The performance of the VVBs is regularly assessed in each certification process by the technical management of programme. The list of approved VVBs is available at www.cercarbono.com.

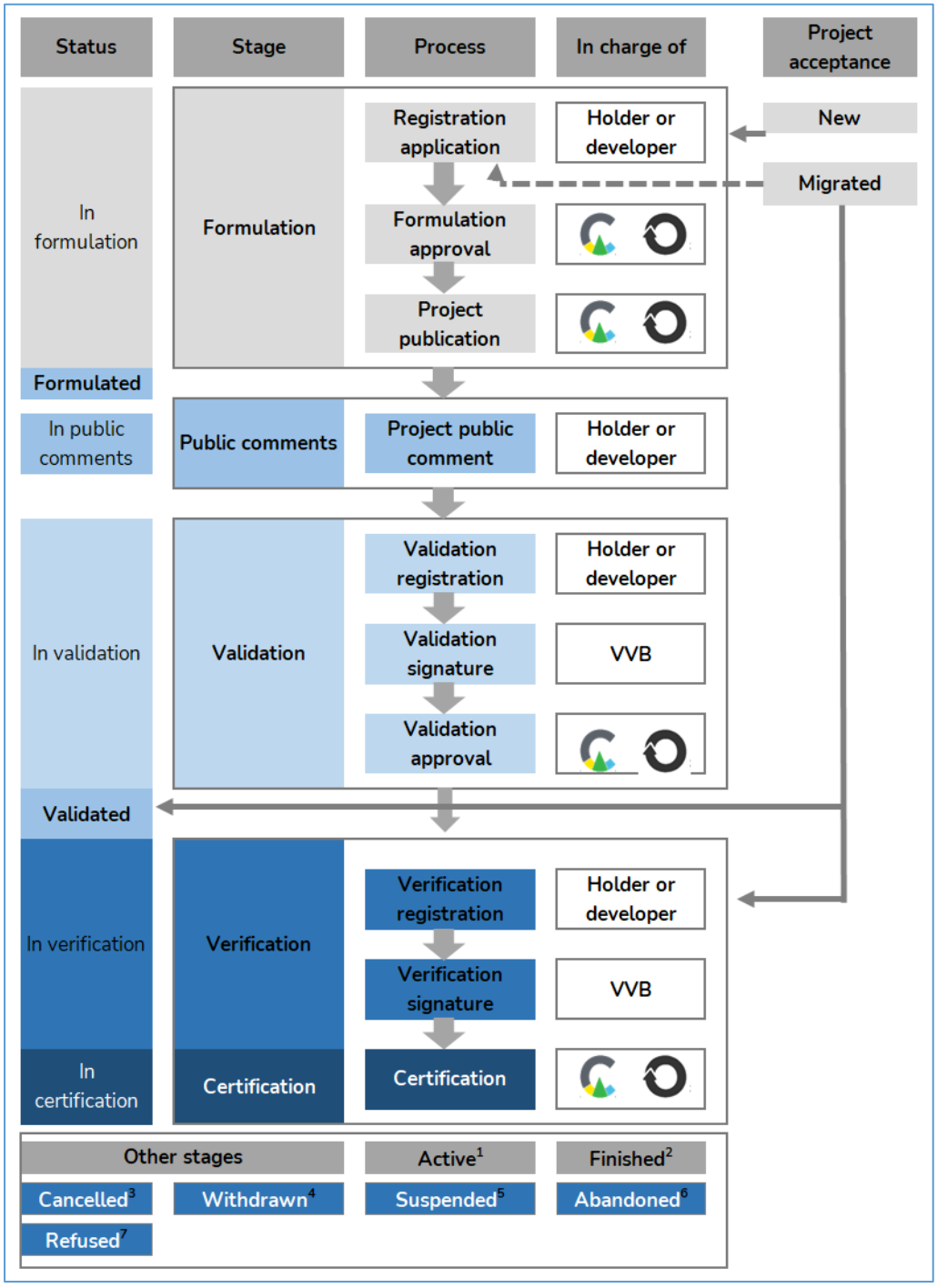
The programme must review any conflict of interest that arises with respect to a VVB or assigned personnel. If a conflict exists, it must assign a committee to study the case and based on the review and analysis of the conflict, the VVB will or will not be allowed to operate under the programme.

For this purpose, the programme has a ***Declaration of Conflict of Interest Made by the VVB*** form, available at www.cercarbono.com. This form is mandatory prior to the validation and verification processes.

8 Stages of the project cycle

The programme has established the following stages for carrying out the certification process: formulation, public comments, validation, verification, and certification. These stages are presented schematically in Figure 5 and developed in the following sections.

Figure 5. States, stages, processes, and responsible parties for certification in the programme.



1. Project in implementation that is not at any other stage.
2. Project that has reached the end of its lifespan.
3. Project that the holder or developer decides not to continue and requests its deregistration.
4. Project that the holder retires from the programme.
5. Inactive project due to sanction.
6. Project inactive for so long that it cannot be reactivated.
7. When a project doesn't comply with the requirements of the programme it will be rejected.

8.1 Formulation

To participate in the Voluntary Programme on Circular Economy it is necessary to open an account on the EcoRegistry platform. This platform hosts all the information that is part of the pre-registration, formulation, validation, verification, and certification processes for the registration of the project and the issuance, monitoring, transfer, and retirement of the Circular Credits.

At this stage, the project applies for registration in the programme through the EcoRegistry platform.

In the case of the developer, he/she must have a representation document from the project that accredits him/her as such. The programme has a ***Power of Attorney*** form, available at www.cercarbono.com.

A programme technical reviewer verifies that the documentation provided is sufficient for compliance with the requirements, the required authorisations, and powers of attorney, proof of holdership or tenure of the area where the project will be implemented, among others, as detailed in the document ***Procedures of the Voluntary Programme on Circular Economy***.

Project registration can be done at the formulation stage (new and migrated projects) or at the validation and verification stages (migrated projects).

During this stage, the project appears on the EcoRegistry platform in the In Formulation status. Once this stage is approved, it enters public comments.

8.2 Public comments

Once the formulation is approved, the public comment period of the project starts at www.cercarbono.com, which links to the project file on the registry platform and remains open for 30 calendar days. Comments received in this period are processed by the programme, addressed by the project and become part of the project file on the EcoRegistry platform.

See ***Procedures of the Voluntary Programme on Circular Economy*** for more information.

8.3 Validation

At this stage, the project requests the registration of its validation, based on the assessment of its design and its baseline scenario by a VVB. Following the assessment, a validation report is produced. If the project design meets all the requirements of the validation process of this protocol, the selected methodology, and the current standards, or laws under which it is governed, a validation statement is issued; otherwise, corrective actions are requested for adjustment of the project and subsequent review by the VVB.

At this stage, the technical team or the assigned expert reviews the validation documents and compliance with the corresponding requirements. If missing or missing elements that need to be corrected or expanded are found, change requests can be made on the platform, which must be addressed by the VVB or the project developer.

During this stage, the project appears on the EcoRegistry platform in the In validation status. Once this stage is approved, until the verification stage starts, the project appears on the platform in the Validated status.

It is possible to simultaneously perform the validation and verification processes by a VVB, whose compliance is integrated into a single report. In these cases, if there are no corrective actions, a joint validation, and verification statement is generated, which can be used both in the registration and certification of the project by the programme and then in the registration and issuance of Circular Credits in EcoRegistry.

The most important elements of the validation process of a project based on ISO/IEC 17029:2019 and ISO 14065:2020, under which the VVB issues opinions in the validation report and a validation statement, are detailed below.

8.3.1 Actions prior to validation and verification processes

Prior to initiating the validation and verification processes, the authorised VVB should select a team or person with the necessary skills and competences to carry out these processes, who should have sufficient understanding of the project activity to plan and perform the validation and verification, to identify the types of potential material errors, their probability of occurrence, and to select the evidence gathering procedures (from analytical tests or estimates, assessments, calculations, sampling, consultations, or others that are considered relevant for their evaluation and conclusions). The validation or verification person or team should have sufficient technical expertise to assess relevant activities and technologies, as well as waste reduction and recirculation quantification, monitoring, and reporting, including relevant technical issues. Validators and verifiers should demonstrate compliance with ethical requirements adhering to the principles outlined in **Sections 3.3** and **3.4**.

The validation and verification teams should have experience in auditing data and information to assess the statement contained in the PDD and the monitoring report,

including the ability to assess the information system and determine whether the client has identified, collected, analysed, and reported all relevant information, and has taken corrective action to address any misstatements or non-conformities; to design an evidence collection plan; to analyse the risks associated with the use of data and data systems; to identify flaws in the data and data systems; and to assess the impact of the various data flows on the materiality of the validation or verification statement.

The validation and verification teams must have the ability to communicate effectively on relevant issues in the validation or the verification. The validation or verification team leader must have sufficient knowledge and experience of the competences detailed in the validation and the verification processes and the ability to manage the validation or verification team to meet the objectives of the validation or verification.

Also, prior to the validation and verification process, the VVB should define with the client:

- The type and level of engagement of each process or if it is the case of joint validation and verification processes (performed at the same time), as well as the level of reasonable assurance of the statement(s) issued, thus establishing how and when to collect evidence.
- The validation and verification objectives establishing the preciseness of the claim(s) and the conformity of the claim(s) with the requirements of the validation and verification processes of the protocol.
- Whether these correspond to first-time validation and verification processes or updates. A validation process normally covers the entire accreditation period of a project. Post-first-time validation processes are performed in order to update the project activities covered, either by the addition of new instances (areas, processes, machinery, or facilities) in both the baseline and project scenarios, such as in grouped projects, or by changes due to external factors (such as environmental catastrophes, market, policies, etc.). Verifications after the first time are carried out as many times as established in the monitoring plan, according to the project accreditation period or when the project holder considers it necessary. In both processes, the documentation of the previous validation and verification process is considered, as applicable.
- The assessment criteria considering the requirements of the project. The validator and verifier assess them considering:
  - The method for determining the scope and limits of engagement.
  - The materials and their sources.
  - The methods of estimation or quantification.
  - The requirements for disclosures.
- The scope of the validation and verification processes including as a minimum the spatial limits (of facilities, physical infrastructure, activities, technologies, and processes), time limits (period) and types of material sources.

- The scope of validation and verification statements including: any material side effects; validation of the baseline scenario; and verification of the baseline and project scenarios. The material discrepancy thresholds required by stakeholders, which may be quantitative (including misstatements, incomplete inventories, misclassified materials, or misapplication of calculations) or qualitative.
- The action to define holdership of the project, with supporting documentation as appropriate.
- Conduct a conflict-of-interest check or review by the VVB.
- Submit the signed declaration demonstrating that there are no conflicts of interest on the part of the VVB and the project, dated eight calendar days prior to a validation or verification event. For this, the programme has a ***Declaration of Conflict of Interest Made by the VVB*** form, available at www.cercarbono.com.
- Review the contribution to the proposed SDGs and the legal authorisation of the project, where applicable.

8.3.2 Validation plan

The validator should develop a validation plan that addresses the previous actions in **Section 8.3.1**.

The validator should assess the preciseness and integrity of the PDD. The validator should communicate the validation plan and report field visits to the project holder.

If the evidence collected indicates a material error or identifies any non-conformities in the criteria, it may be necessary for the validator to modify the validation plan and the evidence collection plan, as necessary.

8.3.3 Evidence collection and validation implementation plan

The validator should design a plan of activities for the collection of sufficient and appropriate evidence for each project activity to support his conclusion in the validation report and statement. Except in cases where the validator chooses to examine all evidence.

The validator should use a risk-based process to identify the evidence that is collected for each material-related activity. The validator should use any validation activity or technique to design the evidence collection plan, including field visits.

The team leader should approve the validation plan and evidence collection plan, especially when there are changes to:

- The scope or timing of validation activities.
- The evidence collection procedures.
- The locations and sources of information for evidence collection.

- The identification during the validation process of new risks that could lead to material errors or non-conformities.

8.3.4 Project calculations

The validator should confirm the calculations used in the project by checking:

- The correct application of the calculations in the quantification of reduced or recirculated materials.
- The correct application of the conversion of units of measurement.
- That the calculations have been performed in accordance with the selected methodology and the assessed criteria.

To confirm the reduction or recirculation of materials proposed by the project activity, the validator should assess and compare the baseline and proposed project scenario, including the consistency of assumptions and limits over the accreditation period and the lifespan of the project.

8.3.5 Future estimates

The validator should assess the future estimates associated with the project so that it can evaluate the proposed approach and assumptions inherent in the projection, the applicability of its scope to the proposed project activity, and the sources of data and information used in the projection, including their appropriateness, integrity, preciseness, and reliability.

8.3.6 Project evaluation

The validator should use the evidence gathered to evaluate the project against the validation criteria outlined here. The validator should also assess, individually and as a whole, whether uncorrected errors are material to the project as well as the conformity with the requirements and, finally, reassessment of the recognition.

8.3.7 Validation opinion

The validator must provide a validation opinion based on the evidence gathered during the validation process, which can be of three types:

- **Positive (unmodified) opinion** ensuring that there is sufficient and appropriate evidence to support the reduction or recirculation of materials in accordance with the requirements of the validation process.
- **Modified opinion** assuring that identified errors have been corrected for the reduction or recirculation of material in accordance with the validation process.
  - Where there is a deviation from the requirements of the criteria or deficiencies in the assumptions used to develop future estimates, the validator must decide what

type of modification to the validation opinion is appropriate. In addition to materiality, the validator should consider the extent to which the matter affects the validation statement; the extent to which the effects of the matter on the validation statement can be determined; whether the validation statement is, or could be understood to be, misleading even when read in conjunction with the validator's opinion.

- A modified validation opinion together with the validation statement normally serves to adequately inform interested parties of any deficiencies or potential deficiencies in the statement.

- **Negative opinion** concluding that there is insufficient or inappropriate evidence to support a positive or modified opinion, that the criteria to support material reduction or recirculation are not adequately applied, that the criteria are not consistent with the validation process, or that the effectiveness of the controls cannot be determined.

The validation statement may be issued only when the validator has generated a positive or modified opinion.

8.3.8 Validation report

The validator must submit a validation report including as a minimum:

- An appropriate title.
- An addressee.
- The holdership and location of the project.
- A disclaimer stating that the client is responsible for the preparation and submission of the PDD of the project in accordance with the requirements of the validation process.
- The scope of the validation.
- The lifespan of the project and its justification.
- The period of accreditation and its justification.
- A statement that the validator is responsible for expressing an opinion on the project based on the validation.
- A description of the validation evidence gathering procedures used to assess the PDD.
- The description of the selected methodology(ies).
- The description of the baseline scenario.
- The projected reduction or recirculation of materials in the project scenario during the project accreditation period.
- The date and location of the field visit.
- A summary of the validation statement.
- The date of the report.
- The validation opinion.
- The name of the validator or validation team.

- The location and signature of the validator or validation representative.

The programme has templates for ***Validation Report*** and ***Joint Validation and Verification Report*** templates, available at www.cercarbono.com.

8.3.9 Validation statement

The validation statement is the document issued by the VVB, which refers to the validation report and contains a unilateral representation that it has validated the compliance of the project with the requirements of the validation process and issued a positive or modified opinion.

The validator must deposit the documentation for this stage with EcoRegistry, which should include the validation report, the audit or findings report, the validation statement, and any other information deemed relevant.

According to ISO/IEC 17029:2019, the validation statement must include the following information:

- The name and logo of the VVB.
- The client's name and identification.
- The name of the project, including the related activity (material reduction or recirculation).
- A disclaimer stating that the declared results are the responsibility of the client.
- Location of the project.
- Type of materials used by the project.
- A statement that the VVB meets the accreditation criteria as set out in ISO 14065 detailing the version used.
- An outline of the criteria under which the validation was assessed (methodology, tools, protocol, etc.).
- Identification of the criteria used by the VVB.
- A list of the documents audited.
- The level of assurance of the validation.
- The lifespan of the project (from day.month.year to day.month.year).
- The period of accreditation or renewal granted (from day.month.year to day.month.year).
- The annual disaggregation of the estimated material reduction or recirculation or total material reductions or recirculations in the project crediting period by material type, where applicable.
- The annual disaggregation of the estimated or projected net material reductions or recirculations or net material reductions or recirculations in the baseline and project scenarios over the accreditation period and over the lifespan of the project.
- The date of issuance of the statement (day.month.year).

- The location and signature of the auditor or audit leader.

The programme has templates for ***Validation Statement*** and ***Joint Validation and Verification Statement***, available at www.cercarbono.com.

8.3.10 Adequate disclosure of the project

The validator should assess how the project has been adequately disclosed and should ensure that material disclosures occur. In doing so, the validator should assess whether the disclosure:

- Is accurate and complete.
- Is an accurate reflection of the activity related to material reduction or recirculation.
- Contains biases, intended and unintended.
- Addresses the requirements and needs of stakeholders.

8.4 Verifications

At this stage, the project requests a record of its verification, based on the assessment of the monitoring of its implementation by a VVB. Following the assessment, a verification report is produced. If the implementation of the project complies with all the requirements of the verification process of this protocol, of the selected methodology, and of the standards or laws in force under which it is governed, a verification statement is issued; otherwise, corrective actions are requested for adjustment of the project and subsequent review by the VVB.

During this stage, the project appears on the EcoRegistry platform in the In verification status. This stage is approved by the programme during the Certification stage.

Once the project and the VVB upload the required information to the platform and the programme starts the document review, the project appears on the platform in the In certification status.

The most important elements of the verification process of a project based on ISO/IEC 17029:2019 and ISO 14065:2020, under which the VVB issues opinions in the verification report and the verification statement, are detailed below.

8.4.1 Verification plan

The verifier should develop a verification plan that addresses the prior actions contemplated in **Section 8.3.1**, as well as assess or analyse:

- What is set out in the PDD.
- The selected methodology.
- The validity of the baseline scenario.
- The type and sources of materials.

- The implementation of the quantification methods and the reporting of any changes.
- The sources of material information.
- The information and data control system.
- Oversight of the project reporting data management and supporting processes.
- The availability of evidence for the information supporting the PDD.
- The results of previous verifications, where applicable.
- The type of materials.
- The monitoring plan, setting out the number and frequency of verification events and their justification for earlier or later occurrences than planned.
- The monitoring methodology applied.
- The monitoring reports.
- The results of the validation report.
- Other relevant information, if applicable.

The range of time between verification events established by the project can be between six months and five years, according to the project's accreditation period interest, as detailed in **Section 8.4.16**.

8.4.2 Risk assessment

The verifier should perform a risk assessment of the PDD to identify misstatement or non-compliance with the criteria. The risk assessment should consider the results of the material discrepancy assessment and should consider:

- The probability of error in the PDD.
- The effect of material sources on the PDD.
- The presence of significant or unusual leakage not contemplated.
- The nature of the specific operations of the project.
- Any changes from previous periods.
- The likelihood of non-compliance with applicable laws and regulations that may have a direct effect on the content of the PDD.
- Any significant economic or regulatory changes that may affect material reductions or recirculations.
- The selection, quality, and sources of materials data.
- The level of detail of documentation available.
- The nature and complexity of quantification methods.
- The characteristics of the data reporting and control system.
- Any controls used to monitor and report material data.
- The experience, skills, and training of personnel.

Sources of information for risk assessment may be obtained by conducting site or area visits, or by performing high-level analysis procedures to determine other areas of risk which may include:

- Evaluation of changes in source data.
- Assessment of changes in material reduction or recirculation over time.
- Evaluation of expected reductions or recirculations compared to reported reductions or recirculations.

8.4.3 Evidence collection and verification execution plan

The verifier must design a plan of activities for the collection of sufficient and appropriate evidence from each project activity to determine whether the PDD conforms to the requirements of the verification process, which supports its conclusion in the verification report and statement, except in cases where the verifier chooses to examine all evidence.

The verifier must use a risk-based control process to identify the evidence that is collected for each material-related activity and design and perform analysis procedures and tests for the material reduction or recirculation activity by material type.

The verifier must perform the verification in accordance with the verification plan and evidence collection plan. If the project has made any changes to the PDD, due to requests for clarifications, misstatements, and non-conformities, the verifier must evaluate these changes.

The team leader should approve the verification plan and evidence collection plan, especially when there are changes to:

- The scope or timing of verification activities.
- Evidence collection procedures.
- The locations and sources of information for evidence collection.
- Identification during the verification process of new risks that could lead to inaccuracies or non-conformities.

The verifier must perform the verification in accordance with the proposed and approved verification plan against which evidence can be collected related to the project activities carried out.

8.4.4 Data recording

The verifier must collect and evaluate the existence of data records of reduction or recirculation of exposed materials in the monitoring report.

8.4.5 Aggregated material data and information

The verifier should collect evidence of the data aggregation process, including the agreement of the project with the records made during the preparation of the PDD and as related in the monitoring report.

8.4.6 Implementation of verification activities and techniques

If performing analytical testing, the verifier should consider the ability of the test to reduce or mitigate the identified risk, the reliability of the data to be analysed, and the likelihood that the test will identify misrepresentations.

If analytical testing identifies fluctuations or relationships that are inconsistent with other relevant information or that differ significantly from expectations, the verifier should investigate such differences by obtaining additional evidence and performing other evidence gathering activities.

8.4.7 Sampling

If sampling is used, the verifier should consider the purpose of evidence collection and the characteristics of the population from which the sample is drawn, aiming for a statistically significant sample.

8.4.8 Project site/area/facility visits

8.4.8.1 Selection of the site, area, or facility

Field audits or site/area/facility visits should be planned to gather the necessary information to reduce verification risks. These audits are carried out to evaluate, measure, and corroborate *on-site* all aspects referenced in the project, its supports, its material reduction or recirculation calculations and other required information. Normally, they are carried out *on-site* to verify that the audits were carried out within the parameters required by the VVB and on the date assigned by the VVB.

In some cases, these field audits can be conducted remotely by VVBs, as detailed in the document ***Procedures of the Voluntary Programme on Circular Economy***.

For field audits, the verifier must identify the need to visit sites, areas, or facilities, including their number and location, considering:

- The results of the risk assessment and the efficiency of evidence gathering.
- The number and size of sites, areas, or facilities associated with the project.
- The diversity of activities at each site, area, or facility that contribute to the verification statement.
- The nature and magnitude of material production at different sites, areas, or facilities and their contribution to the verification statement.
- The complexity of quantifying the sources of materials generated at each relevant site, area, or facility.
- The degree of confidence in the management of the materials data and information system.
- Any risks identified in the risk assessment that indicate the need to visit specific sites.

- The results of previous verifications or validations, if any.

8.4.8.2 Circumstances requiring a site, area or facility visit

The verifier must conduct a site, area, or facility visit in any of the following circumstances:

- An initial verification.
- A subsequent verification, for which the verifier has no direct knowledge of the activities and results of the previous verification.
- A verification where there has been a change of holdership of a site, area, or facility and where reductions or recirculations of materials from the site, area, or facility inform the verification statement.
- Where misstatements are identified during verification, indicating the need to visit a site, area, or facility.
- There are unexplained changes in reductions or recirculations since the verification statement.
- The addition of a site, area, or facility required for the verification statement.
- Changes in the scope or limit of reporting.
- Significant changes in data management involving the specific site, area, or facility.

The verifier may determine that the above circumstances do not require a site, area, or facility visit based on the results of the risk assessment and evidence collection plan and considering the results of any previous verification of the same site, area, or facility. If a verifier determines that a site, area, or facility visit is not necessary, the verifier should justify and document the decision.

8.4.8.3 Activities to perform during site, area, or facility visits

The verifier should collect evidence at the site, area, or facilities to assess, as determined by the risk assessment, on:

- Scope and limits of the site, area, or facility.
- Operations and activities relevant to the material generating sources.
- Information and data control systems.
- Physical infrastructure.
- Equipment, such as measuring devices and instruments, to establish traceability of applicable calibration and monitoring information.
- Equipment types, assumptions, and supporting calculations.
- Processes and material flows affecting material circularity.
- Compliance with operational and data collection procedures.
- Sampling equipment and sampling methodologies.
- Monitoring practices against requirements established by the responsible party or specified in the requirements.

- Calculations and assumptions made to determine material flow data and, as appropriate, material reductions or recirculations.
- Quality control and quality assurance procedures in place to prevent or identify and correct any errors or omissions in reported monitoring parameters.

8.4.9 Assessment of prior period changes

The verifier should determine whether the project has adequately disclosed prior period changes (or prior verification events).

8.4.10 Holdership assessment

The verifier should assess whether the project holder is entitled to claim the material reductions or recirculations expressed in the verification statement.

8.4.11 Assessment of the status of the project

The verifier should assess any changes in risks and material discrepancy thresholds that may have occurred during the verification. The verifier should assess whether the high-level analysis procedures applied remain representative and appropriate.

The verifier should determine whether the evidence collected is sufficient and appropriate to generate a conclusion. If the verifier considers it to be insufficient, the verifier may undertake additional activities to collect evidence. The verifier should also check for material errors or discrepancies.

8.4.12 Assessment of conformity to requirements

The verifier must assess any non-conformity with the requirements of the verification process. To assess conformity, the verifier should consider the following:

- The scope of the implementation of the project, including area(s), the technology, and measuring equipment facility.
- The operation of the project.
- The monitoring plan and methodology, including the requirements in the criteria.
- Changes in the baseline scenario, in the installed equipment or in the monitoring plan.
- Conservative judgements that have a material effect on the verification statement.
- The results of validation.
- The results of previous verification events.
- Assessment of changes from prior periods.
- The verifier should determine whether changes from prior periods that make the periods incomparable have been appropriately disclosed.

8.4.13 Verification opinion

The verifier must provide a verification opinion based on the evidence gathered during the verification process. The opinion that the verifier must provide can be of three types:

- **Positive (unmodified) opinion** assuring that sufficient and appropriate evidence exists to support the quantification of material reduction or recirculation, that it meets the verification requirements, that the effectiveness of the controls has been assessed, and that the verifier has confidence in the controls.
- **Modified opinion** assuring that identified errors have been corrected to support material reduction or recirculation and follow the requirements of the verification process.
- **Negative opinion** concluding that there is insufficient or inappropriate evidence to support a positive or modified opinion, or where the criteria to support the quantification of material reduction or recirculation are not adequately applied and are not consistent with the verification process.

The verification statement can be issued only when the verifier has generated a positive or modified opinion.

8.4.14 Verification report

The verifier must submit a verification report that includes at least:

- An appropriate title.
- An addressee.
- A disclaimer stating that the client is responsible for the preparation and submission of the PDD of the project in accordance with the requirements.
- The lifespan of the project.
- The project accreditation period or its renewal, where applicable (from day.month.year to day.month.year).
- The scope and period of the verification.
- The description of the selected methodology(ies).
- A list of the criteria under which the verification was assessed (methodology, tools, protocol, etc.).
- A statement that the verifier is responsible for expressing an opinion on the project based on the verification.
- A description of the verification evidence collection procedures used to assess the project.
- Waste generation and material reductions or recirculations from the baseline scenario during the verification period.
- The annual disaggregated material reductions or recirculations that were calculated in the project during the verification period.

- The verification opinion.
- An overview of the criteria and requirements considered during the verification.
- A summary of the verification statement.
- The date of the verification report.
- The date and location of the field visit.
- The name of the verifier or verification team.
- The location and signature of the verifier or verification representative.

The programme has templates for ***Verification Report*** and ***Joint Validation and Verification Report*** templates, available at www.cercarbono.com.

8.4.15 Verification statement

The verification statement is the document issued by the VVB that refers to the verification report and contains a unilateral statement that it has verified the compliance of the project with the requirements of the verification process and issued a positive or modified opinion. In this statement, the VVB must have verified the annual disaggregation of material reduction or recirculation reached by the project.

The verifier must deposit the documentation for this step in EcoRegistry, which must include the verification report, the audit, or findings report, the verification statement and any other information considered important by the verifier.

According to ISO/IEC 17029:2019, the verification statement should include the following information:

- The name and logo of the VVB.
- The client's name and identification.
- The name of the project.
- The related activity (material reduction or recirculation).
- A statement that the PDD is the responsibility of the client.
- The location of the project.
- An overview of the facility or total area audited.
- An outline of the implementation in the verification process.
- A statement that the VVB meets the accreditation criteria as set out in ISO 14065 and details of the version used.
- An outline of the criteria agreed between the client and the VVB under which the verification was assessed.
- An outline of the criteria used by the VVB to verify the information.
- Where future predictions are included, an indication that the actual outcome may differ from the estimate because the assumptions on which the estimate is based may change.
- A list of the documents audited.

- The level of assurance of the verification.
- The lifespan of the project (from day.month.year to day.month.year).
- The period of accreditation of the project or its renewal, where applicable (from day.month.year to day.month.year).
- The estimated total material reductions or recirculations in the project accreditation period.
- The annual disaggregation of the net material reductions or recirculations quantified in the baseline and project scenarios for the audited verification period. Rounded values may be provided.
- The signature of the auditor or audit leader.

The programme has templates for ***Verification Statement*** and ***Joint Validation and Verification Statement***, available at www.cercarbono.com.

8.4.16 Deadlines for verification events

Projects may conduct verifications at least every six months and at most every five years. If a project has not performed verifications for four years and nine months, or if its accreditation period is nearing completion, it receives an alert from our programme indicating the need for a verification.

If for any reason the project considers that it will not carry out such verification within the missing deadline, it will have a grace period of one year, if it notifies the programme of the expected delay with the corresponding justification, until two months after five years from the last verification or, in the case of the first verification, from the start of the project.

If the notification and justification of the delay is not received and the project subsequently wishes to carry out a verification with a delay of between one and two years, it must make a formal notification to our programme, again justifying the delay and providing evidence of the uninterrupted development of the monitoring plan.

The project that has not notified the programme of expected delays in verifications or justified such delays, or in any case does not carry out verifications until two years after the maximum allowed deadline between verifications, must carry out a revalidation justifying the absence of verifications. If no verification events were carried out in the accreditation period granted, the accreditation period cannot be renewed; in this case, the project can apply as a new considering the changes that have been generated around the baseline scenario and other important elements implemented by the project; in addition, it must comply with all the requirements set out in the validation and verification processes.

8.5 Joint validation and verification

8.5.1 VVB requests

The VVB must communicate to the project as soon as possible requests for clarifications, misstatements, or non-conformities and report intentional errors or non-compliance with governing laws or regulations.

If the project holder fails to respond adequately within a maximum period of six months, the VVB issues a negative validation or verification opinion, thus supporting its retirement from the process. Similarly, if the VVB determines that there is insufficient information to support the validation or verification statement, it must request the missing information. If such information is not rectified, the process cannot continue.

8.5.2 VVB information list

The VVB must maintain the following records:

- Terms of engagement.
- Validation and verification plan.
- Evidence collection plan.
- Evidence collection.
- Requests for clarifications, corrections, or non-conformities arising from validation and verification, and conclusions reached.
- Communication with the client on important requests.
- Supporting records or documentation collected during audits and field visits.
- Conclusions reached and opinions of the validator and verifier.

The documentation of the validation and verifications of the project remains available on the EcoRegistry platform for a minimum period of 10 years.

8.5.3 Evidence collection

VVBs in charge of validation and verification processes must use one or more of the following collection activities and techniques:

- Observation.
- Consultation.
- Analytical tests.
- Confirmation.
- Examination.
- Tracing.
- Control tests.
- Sampling.
- Cross-checking.

If the VVB determines that there is insufficient information to support the validation or verification statement, it must request additional information from the client. If sufficient information cannot be obtained, the validator or verifier will not proceed further.

8.5.4 Facts discovered after validation or verification

The VVB should obtain appropriate and sufficient evidence and identify relevant information up to the date of the validation and verification opinion. If facts or new information that could materially affect the validation and verification opinion are discovered after this date, the VVB should take appropriate action, including communicating the matter as soon as possible to the project. The VVB may also communicate to other interested parties the fact that the confidence of the original opinion may now be compromised given the discovered facts or new information.

If there is a significant adjustment that needs to be made to the materiality statement, the validator or verifier should communicate the need for the adjustment to the responsible party.

If, in the opinion of the validator or verifier, the responsible party does not respond adequately within a reasonable deadline, the validator or verifier must inform the client, if different from the responsible party. If, in the opinion of the validator or verifier, the client does not respond appropriately within a reasonable deadline, the validator or verifier must: a) issue a modified validation or verification opinion or b) withdraw the validation or verification.

The validator or verifier must report non-material misstatements to the responsible party.

8.5.5 Certification

Once the project and the VVB upload the required information to the platform and programme starts the document review, the certification stage starts immediately and the technical team or the assigned expert reviews the verification documents (or validation and verification documents if it is a joint process) and the compliance with the corresponding requirements. If missing or missing elements that need to be corrected or expanded are found, requests for changes to the platform can be made and must be addressed by the VVB or the project developer.

Once compliance with the requirements has been reviewed, a certification report is generated. EcoRegistry then generates the registration and issuance of Circular Credits based on the verification.

During this stage, the project appears on the EcoRegistry platform in the In certification status.

Once the credits are issued, the project goes to Active status, where it remains until a new verification process is initiated or until it is de-registered due to cancellation, retirement, or abandonment, in which case the project remains permanently in Cancelled, Withdrawn or Abandoned status, respectively.

If a project is validated, the time in the registration process depends on the users in charge of the progress of the project in each stage, as long as the programme does not request missing or additional information or documentation from the holder, the developer or the VVB; otherwise, they must incorporate the requested information or documentation, which immediately restarts the process.

If a project is verified, the Circular Credits issuance and registration certification process lasts a maximum of fifteen (15) business days if the certifier does not request information or documentation (missing or additional). If this is the case, the process duration is paused until the project incorporates the requested information or documentation, whereupon the excess duration of the process is immediately resumed.

The costs associated with the certification process depend on the specific conditions of the project. This information can be requested at globalzerowaste@cercarbono.com.

8.5.6 Facts discovered after certification

As part of the continuous review process, the programme monitors the certified projects, which may generate, if necessary, notifications on post-certification facts, which are transmitted directly to the VVB and in some cases to the holders to find justifications or request formal changes to the project.

9 Registration platform

The Voluntary Programme on Circular Economy uses EcoRegistry as its registration platform for projects. EcoRegistry is a platform based on blockchain technology that ensures transparency in the accounting of the voluntary circularity market for materials and security, and traceability in the management of information related to materials reduction or recirculation projects.

Complementary information on the above is detailed in the document ***EcoRegistry Platform Connectivity***, available at www.ecoregistry.io/documents.

For more information on the features and use of the platform, please refer to the ***EcoRegistry User Guide Registry Platform***, available at www.ecoregistry.io/documents.

This platform is responsible for storing and managing user accounts, information provided by users, communications between users, storing the results of the different stages of the certification cycle, and information related to the credits issued. EcoRegistry has no influence on the decisions and results of the certification process.

10 Migration of projects from other standards or certification programmes

The holder or developer of a project seeking to generate and certify Circular Credits under the Voluntary Programme on Circular Economy has mainly two options to achieve this:

- Propose and develop a project from its formulation.
- Migrate an existing project from another standard or certification programme to the programme.

In the first option, the project must follow the steps described in **Section 6** of this protocol.

The requirements and procedures for projects migration are detailed in the document ***Procedures of the Voluntary Programme on Circular Economy***.

11 Annual report

Voluntary Programme on Circular Economy will generate an annual report on their performance during the year prior to the date on which it is issued. This will provide summary information to projects clients and stakeholders on the types of material reduction or recirculation activities, registration status, geographic distribution, certification events conducted, Circular Credits (issued, retirements, and available). It will also include financial information on the standard and updates or new developments in its documentary output. This report will be available at www.cercarbono.com.

12 References

CEN/TR 15353:2007. *Plastics - Recycled plastics - Guidelines for the development of standards for recycled plastics*.

Cercarbono. (2024). *Cercarbono's Protocol for Voluntary Carbon Certification*. Version 4.4. Available at: www.cercarbono.com.

Dangond, S. (2019). *Economía circular (EC), una herramienta para el logro de los objetivos del desarrollo sostenible (ODS)*. Available at: kutt.it/AlwF1A.

Ecoplas (2011). *Manual de Valorización de los Residuos Plásticos*. 5a Edición. Available at: kutt.it/OYh1Mi.

Ecoplas. (2020). *Reciclado avanzado de los plásticos*. Publicación N° 57. Available at: kutt.it/EnSild.

EcoRegistry. (2023a). *EcoRegistry Platform Connectivity*. Version 1.0. Available at: www.ecoregistry.io/documents.

EcoRegistry. (2023b). *EcoRegistry User Guide Registry Platform*. Version 2.0. Available at: www.ecoregistry.io/documents.

Ellen MacArthur Foundation. (2013). *Towards the circular economy: Economic and business rationale for an accelerated transition*. Available at: kutt.it/NNYtjY.

Global Zero Waste and Cercarbono. (2025a). *Procedures of the Voluntary Programme on Circular Economy*. Version 2.0. Available at: www.cercarbono.com.

Global Zero Waste and Cercarbono. (2025b). *Terms and Definitions of the Voluntary Programme on Circular Economy*. Version 2.0. Available at: www.cercarbono.com.

Global Zero Waste and Cercarbono. (2025c). *Tool to Report Contributions of Circular Economy Initiatives to the Sustainable Development Goals*. Version 2.0. Available at: www.cercarbono.com.

ISO 14020:2000. *Environmental labels and declarations - General principles*.

ISO 14040:2006. *Environmental management - Life cycle assessment - Principles and framework*.

ISO 14044:2006. *Environmental management - Life cycle assessment - Requirements and guidelines*.

ISO 15270:2008. *Plastics - Guidelines for the recovery and recycling of plastics waste*.

ISO 14001:2015. *Environmental management systems - Requirements with guidance for use*.

ISO 14021:2016. *Environmental labels and declarations - Self-declared environmental claims (Type II environmental labelling)*.

ISO 14033:2019. *Environmental management - Quantitative environmental information - Guidelines and examples*.

ISO 14006:2020. *Environmental management systems - Guidelines for incorporating ecodesign*.

ISO 14063:2020. *Environmental management - Environmental communication - Guidelines and examples*.

ISO 14065:2020. *General principles and requirements for bodies validating and verifying environmental information*.

ISO 59004:2024. *Circular economy: Vocabulary, principles and guidance for implementation*.

ISO 59010:2024. *Circular economy: Guidance on the transition of business models and value networks*.

ISO 59020:2024. *Circular economy: Measuring and assessing circularity performance*.

ISO/IEC 17029:2019. *Conformity assessment - General principles and requirements for validation and verification bodies*.

Rubiano, J. *et al*. (2011). Manejo de los materiales plásticos reciclados y mejoramiento de sus propiedades. *INGE@UAN - Tendencias en la ingeniería*, 1(1), 52-60. Available at: kutt.it/t8AIPr.

Serón, D. (2020). Economía Circular: De Alternativa a Necesidad. *Economistas Sin Fronteras*, 37, 16–20. Available at: kutt.it/so8D1I.

United Nations Environment Programme (UNEP). (2022). *Draft resolution. End plastic pollution: Towards an international legally binding instrument*. Available at: kutt.it/MDyl7Z.

United Nations Environment Programme (UNEP). (2023). *Cities embrace "zero waste" philosophy amidst torrents of trash*. Available at: kutt.it/KmmxCP.

World Bank. (2018). *What a Waste 2.0: A Global Snapshot of Solid Waste Management to 2050*. Available at: kutt.it/ylCB0Q.

13 Document history

Version	Date	Comments or changes
1.0	01.11.2022	Initial version of the protocol in public consultation from 01.11.2022 to 30.11.2022.
1.1	13.01.2023	Version with adjustments and changes generated after the public consultation.
2.0	04.03.2025	Version aligned to the ISO Circular Economy Standards: ISO 59004:2024, ISO 59010:2024 and ISO 59020:2024. Replacement of the acronyms VPCE, PCEM and CEC by their full names. Change Global Zero Waste logo.