CIRCULAR CREDITS MECHANISM
a BVRio initiative

Circular Credits Mechanism Standard and implementation guidelines for socially inclusive waste recovery activities

Version 2.0, November 2024

SUMMARY

ABBREVIATIONS & DEFINITIONS

CAH - Circular Action Hub

CC - Circular Credit

CCM - Circular Credits Mechanism

CLR - Reverse Logistics Credits (acronym in Portuguese)

EPR - Extended Producer Responsibility

MSW - Municipal Solid Waste

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Circular Credit (CC) - represents the service of recovery (collection, sorting and adequate, improved destination) of one metric tonne of solid waste material that is originally inappropriately discarded, causing pollution of the natural environment or foregoing the opportunity of a better destination.

Municipal Solid Waste (MSW) - waste that should be collected and treated by, or for, municipalities. It covers waste from households including bulky waste, similar waste from commerce and trade, office buildings, businesses, as well as yard and garden waste, street sweepings, the contents of litter containers, and market cleansing waste, if managed as household waste. The definition excludes waste from municipal sewage networks and treatment, as well as waste from construction and demolition activities.[1] MSW also excludes industrial waste, hazardous waste, or by-products.

Project - for the purposes of the CCM Standard, the term is used in a broad sense, to refer to waste management activities in general. In order to be able to generate Circular Credits, an activity must be registered in the Circular Action Hub (CAH) as a 'project'.

(Waste) recovery (activities/projects) - for the purposes of the CCM Standard, the term 'recovery' is used broadly to refer to the set of activities involved in the process of giving waste a better destination: collection/removal, sorting and delivery (transportation) to destination. If referring to 'waste recovery' *sensu stricto*, meaning material or energy recovery from waste, we will leave that explicit.

[1] OECD (2020), Municipal waste (indicator). doi: 10.1787/89d5679a-en. Available at https://data.oecd.org/waste/municipal-waste.htm

1. INTRODUCTION

In the beginning of the 21st Century, waste pollution (especially, but not only, by plastics) is one of the biggest global problems, with major social, ecological and economic impacts. This is mainly due to the super production of fast consumer goods, notably single-use, and to waste management deficiencies.

While upstream measures like a reduction in production and eco-design are all needed to tackle the problem, adequate waste management will always be fundamental - these are complementary paths. There is, however, a big gap in resources for appropriate waste management services, especially in developing and least-developed countries.

In alignment with the concept of EPR - Extended Producer Responsibility, BVRio, in 2013, created the first waste credits in the world - the Reverse Logistics Credits (CLR, in Portuguese), a tool to facilitate channelling resources for these activities, while integrating waste pickers and fairly paying for the environmental services they provide.

CLR later evolved to become the current Circular Credits Mechanism (CCM), a socially-inclusive credit standard to help finance projects to improve waste destinations, anywhere in the world. CCM can work as a complementary mechanism for EPR systems or even an integral tool for these systems.

In the context of the CCM, a Circular Credit (CC) represents the service of recovery (collection, sorting and adequate, improved destination) of one metric tonne of solid waste material that is originally inappropriately discarded, causing pollution of the natural environment or foregoing the opportunity of a better destination.[2]

The CCM aims to provide a simple, and fast, financial tool to facilitate payments for environmental services that improve waste destination, while also improving the social conditions of the waste workers. However, as any tool, it needs to be managed responsibly not to become an easy alternative for waste generators to abandon reduction and reuse efforts, especially those with legal compliance obligations.

While only governments have the power to define the conditions under which credits could be accepted for compliance, CCM encourages credit buyers to have waste prevention/reduction plans in place, using CCs only as a complement to their upstream solutions.

This document describes the main features of the CCM Standard, as well as the Implementation Procedures to guide users. It consists of a comprehensive review, consolidation and complementation of the following docs, which are no longer in force and entirely replaced by the present document.

Name of the Document	Version	Date
Circular Credits Mechanism Concept Note	3	June 2020
Circular Action Hub and Circular Credits Mechanism (CCM) Principles & Criteria	1.2	July 2020
Circular Action Hub and Circular Credits Mechanism (CCM) Implementation Guidelines and Operational Procedures	1.2	July 2020

[2] For instance, recyclable materials disposed of in well-managed sanitary landfills with emissions control may not be causing environmental pollution, but, if possible, should be sent for recycling, re-use or energy generation.

2. SCOPE, APPLICABILITY, ELIGIBILITY

2.1. Materials

CCM Standard is applicable to all types of non-hazardous solid waste materials (except for construction waste), recyclable or not, packages or products. As the procedures for collection, separation and destination are essentially the same, BVRio sees no reason to limit CCM scope only to plastics, for example, although this is, currently, the major global concern.

The difference between types of solid waste materials lies in a) the ease of handling; and b) the market prices. The harder to manage and the lower the market price for the physical material, the higher the credit price should be to provide adequate incentives for the service to occur.

This way, the additional value generated by the sale of credits has the potential to make it worthwhile to collect and sort waste materials with lower value, widening the range of products collected beyond the current high value products, such as aluminium cans or PET bottles.

For the issuance of Circular Credits, materials are categorised in subtypes, which are explicitly described in the CCM Circular Impact Statements. This specification of the materials in subtypes is intended to avoid, for example, companies that put non-commercially recyclable[3] materials onto the market (e.g. BOPP) claiming that they mitigate their footprint by buying generic 'plastic' credits that could be related to easy PET recovery.

2.2. Activities

Circular Credits can be issued for one or more activities of waste 'recovery' (understood here as the process of collection/removal, sorting and delivery to a better destination than before). This excludes the waste treatment per se (for example, recycling), as CCM considers that these activities tend to be profitable in their own right (although not always), while the main bottleneck for adequate waste management lies in insufficient collection and removal of waste from the environment.

Both existing and greenfield (i.e. newly constituted) operations (i.e., organisations, projects, etc.) are eligible to generate credits under CCM.

2.3. Sources

CCM Standard is applicable only for projects and activities involving Municipal Solid Waste (MSW), which is the waste that should be collected and treated by, or for municipalities - *see p2 Definitions* for more details. Sources of waste include municipal areas, rivers, oceans, terrestrial natural ecosystems, etc.

There are no geographical limits to the CCM, but the Standard accepts only MSW collected and disposed of in the same country, as waste exports/imports have complex implications. Specific regional guidelines and requirements may be developed in the future, based on experience gathered by users of the Standard, to refine it to different realities worldwide.

[3] Materials for which there is no market or recycling technology available so that they become infeasible to recycle.

2.4. Destinations

The potential final destination of MSW under CCM varies depending on the circumstance and options available. Projects should pursue the most environmentally sound destination available that is economically feasible, observing the Waste Management Hierarchy[4]. This is assessed in the project auditing and should be justified. The destination must always constitute an improvement in relation to the original destination, considering the Waste Management Hierarchy levels.

2.5. Project Developers / Lead Organisations

Any organisation can become a '*Project developer'*, including companies, NGOs, waste picker cooperatives and associations, etc. (and in some cases even governmental entities) provided that the project meets the requirements of this Standard.

Ideally, projects should be implemented by *Lead Organisations* that (a) are formally constituted and registered; (b) have all permits that would allow its specific operation; and (c) have formal detailed records of its operations. However, considering that in some countries these conditions are absent (or only partially present), alternative arrangements can be agreed to allow their participation.

Given that one of the main goals of BVRio is social inclusion, the system was designed to accommodate some flexibility, provided that monitoring can be conducted in an appropriate way.

[4] The Waste (Management) Hierarchy is a concept from the environmental literature that creates an order of preference for waste destinations, and has become part of several policies and legislation.

3. PRINCIPLES AND CRITERIA

The CCM is built on seven principles and associated criteria, described below. These also constitute the basis for the Audit Protocol that will guide the Monitoring and Verification required for the issuance of Circular Credits.

3.1 Additionality

The impact of waste recovery activities and projects must contribute to an improvement of historic trends of waste pollution. This impact can be environmental and/or social (preferably both).

'Environmental additionality' occurs when the activity is only financially feasible due to the revenues from the sale of credits. In practice, this means that the amounts of waste recovered should increase with the project activities, or that only the new amounts recovered would be considered.

'Social additionality' occurs when there is an improvement in work and/or living conditions of the waste workers due to the sales of credits. CCM considers that, to require environmental additionality, minimum social conditions should be in place first.

Since in many countries waste management (mostly informal) activities often occur under bad working conditions, it will be common that projects prioritise social additionality. Furthermore, the CCM considers that activities conducted in contravention to human rights or minimum working conditions should not be counted for the calculation of environmental additionality – in other words, they are not part of the baseline. So, if the same activities are conducted but with adequate working and pay conditions (see section 3.5 and 3.6), these are considered additional.

For additionality to be evaluated, baselines must be calculated/estimated, and methodologies disclosed. CCM doesn't prescribe specific methodologies, but they need to show credibility.

CCM adopts the *concept* of positive lists for specific project types deemed additional by definition, like those run by waste picker organisations. See Guidance Note 2 on Additionality for more info.

3.2 No double counting

The environmental benefits related to the recovery of a certain amount of waste should not be attributed to more than one entity, whether on the side of the seller or the side of the buyer of credits. This means that each credit (attached to 1 tonne of waste) can only be issued once to substantiate environmental claims. See Guidance Note 1 on No Double Counting and No Free Riding for more info.

3.3 Demonstrability

The amount of Circular Credits to be issued to a project must be substantiated by evidence that demonstrates that the activity was conducted and that an equivalent amount of waste materials was indeed recovered and sent to a better destination.

This can be done using different types of documents, such as invoices/receipts associated with the sale of materials to recycling plants (or intermediaries), bills of laden, transportation authorisation, waste manifests, and balance records. This documentation must be kept and made available for third party verification, prior to the issuance of credits.

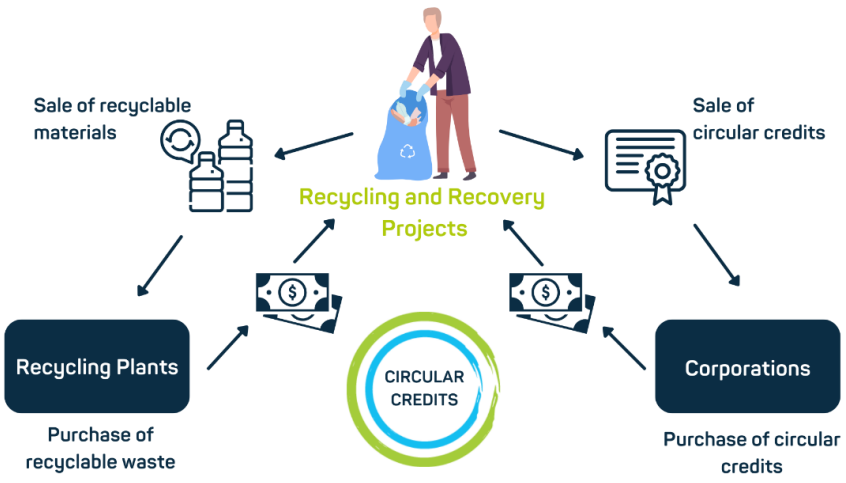
The project needs to establish a reliable monitoring routine. See Section 5.3 for additional information.

3.4 No free riding

The environmental service of waste recovery must be duly remunerated in addition to any payment made for the acquisition of physical recyclable materials.

For instance, in the case where waste pickers are only paid for the sale of physical recyclable materials delivered to the buyer, the entity buying these materials is not entitled to claim the *environmental service* provided, since this is a transaction involving solely the purchase of waste materials as a feedstock for recycling plants.

Payment for the environmental service must be above the payment for the recyclable materials, creating a second revenue stream for its providers, which can come from a different source. See Guidance Note 1 on No Double Counting and No Free Riding for more info.



3.5 Fair remuneration

Waste recovery activities must receive fair remuneration, commensurate with the workload and the time required for the provision of the service.[5] Fair prices are context-specific and will need to be evaluated case-by-case.

Credit prices are primarily determined through supply and demand market basis, but CCM provides an oversight to ensure that participants in the scheme do not adopt exploitative market practices.

3.6 Do no harm

Projects must demonstrate that they adopt minimum social and environmental safeguards to ensure that the activities involved in the creation of Circular Credits do not cause harm to the parties involved.

3.7 Learning by doing

Recognising that there is a huge variation in terms of circumstances, technologies available and approaches that can be used for projects in different parts of the world, with different circumstances, the CCM does not assume that a 'one size fits all' monitoring approach can be defined at the outset. Instead, the CCM adopts a 'learning-by-doing' approach to its monitoring and verification requirements, and will strive for continuous improvement of its requirements based on the experience learned with participating projects.

[5] The prices practised in existing EPR schemes can be used as reference. In the EU, for instance, EPR schemes charge companies for the services of collection and appropriate destination of the residues generated by companies (ranging between ca. EUR 100 and 500 per tonne of material). While this value may not be appropriate for services provided in all countries, it provides a benchmark to calibrate the fair value for the provision of these services in different parts of the world.

4. SAFEGUARDS

CCM Principles ‘No free-riding’, ‘Fair remuneration’ and ‘Do no harm’ imply that Projects are expected to adopt minimum safeguards, appropriate to its scale and circumstance, to prevent and mitigate undue harm to people and the environment. Adoption of these safeguards should be demonstrable.

When designing a project, safeguards should help to assess potential social risks and impacts associated (positive or negative), as well as to define measures and processes to effectively manage risks and enhance positive impacts. The process of applying safeguards can be an important opportunity for stakeholder engagement, enhancing the quality of project proposals and increasing ownership whatever the source of financing is.

The project should comply with applicable - social and environmental - local, regional, and national rules and requirements.

In *environmental* terms, projects should avoid or minimise other forms of pollution derived from the waste recovery activities, as well as, when possible, improve efficiency in the consumption of energy and material resources.

As minimal *social* safeguards, CCM adopts the main ILO parameters as following:

Occupational Health and Safety (OHS)

To an appropriate extent, projects should aim at establishing, implementing, and improving occupational safety and health management systems, with the aim of reducing work-related injuries, ill health, diseases, incidents and deaths. Additional information and guidance are provided by the International Labour Association (ILO).[6]

Whenever possible and appropriate, Personal Protective Equipment (PPE) should be provided and its use promoted in the project activity. Additional information and guidance are provided by ILO[7].

[6] ILO (2001). Guidelines on occupational safety and health management systems. Available at https://www.ilo.org/resource/guidelines-occupational-safety-and-health-management-systems-ilo-osh-2001

[7] ILO (2010). WARM: Work Adjustment for Recycling and Managing Waste. Available at https://www.ilo.org/asia/publications/WCMS_126981/lang--en/index.htm

Principles and Rights at Work

The project should respect and protect the fundamental rights of workers, consistent with the International Labour Organization's (ILO) Declaration on the Fundamental Principles and Rights at Work[8], including:

a) The prevention of child labour. No use of unacceptable forms of child labour (i.e., work that deprives children of their childhood, their potential and their dignity, and that is harmful to physical and mental development and/or affects their schooling). Additional information and guidance are provided by ILO[9];

b) The elimination of discrimination, in respect of employment and occupation;

c) Freedom of association and the effective recognition of the right to collective bargaining;

d) The elimination of all forms of forced or compulsory labour. When applicable, the project should demonstrate compliance with local National Labour legislations that may establish country-wide minimum wages and legal contracts between employees and employers.

[8] Included ILO conventions 29 and 105, and the protocol to the convention 29 (forced labour), 87 (freedom of association), 98 (right to collective bargaining), 100 and 111 (discrimination), 138 (minimum age) 182 (worst forms of child labour).

[9] What is child labour. https://www.ilo.org/ipec/facts/lang--en/index.htm

5. IMPLEMENTATION GUIDELINES

This section aims to assist users in the application of the CCM Standard. Following the 'Learning by doing' principle, additional guidance documents may be provided as more projects are developed and more information is gathered about different approaches and different circumstances, to ensure a continuous improvement of the standard and its guidelines

5.1 Credit Lifecycle Overview

Traditional credit lifecycles for environmental markets (e.g. carbon markets) require the validation, registration, independent verification, and issuance of credits before developers can receive any financial return, and even before they can be showcased for potential supporters.

CCM, through the Circular Action Hub (*see* **ANNEX I**), adopts an 'inverted credit lifecycle' where project developers can post their offers based on an initial, self-declared estimate that is verified only after a potential investor shows interest in the project. This aims to reduce transaction costs and remove a barrier to entry to smaller projects.

When a potential buyer is interested in a project, BVRio conducts an initial analysis and, in the sequence, the project needs to pass through a Validation Audit by an independent party.

The sequence of steps for projects aiming to participate in the CCM can vary depending on if it's an existing or greenfield operation, searching for prepayment or performance-based payments, with a secured buyer or not. The main steps of an overall process *for an existing project* with performance-based payments are described below and detailed in the next subsections.

i. The project is registered and showcased in the **Circular Action Hub**

ii. Once a buyer shows interest in a project, an initial **Validation Audit** is carried out by an independent third party

iii. The project performs its **activities** implementing a **monitoring routine** with adequate impact measurement

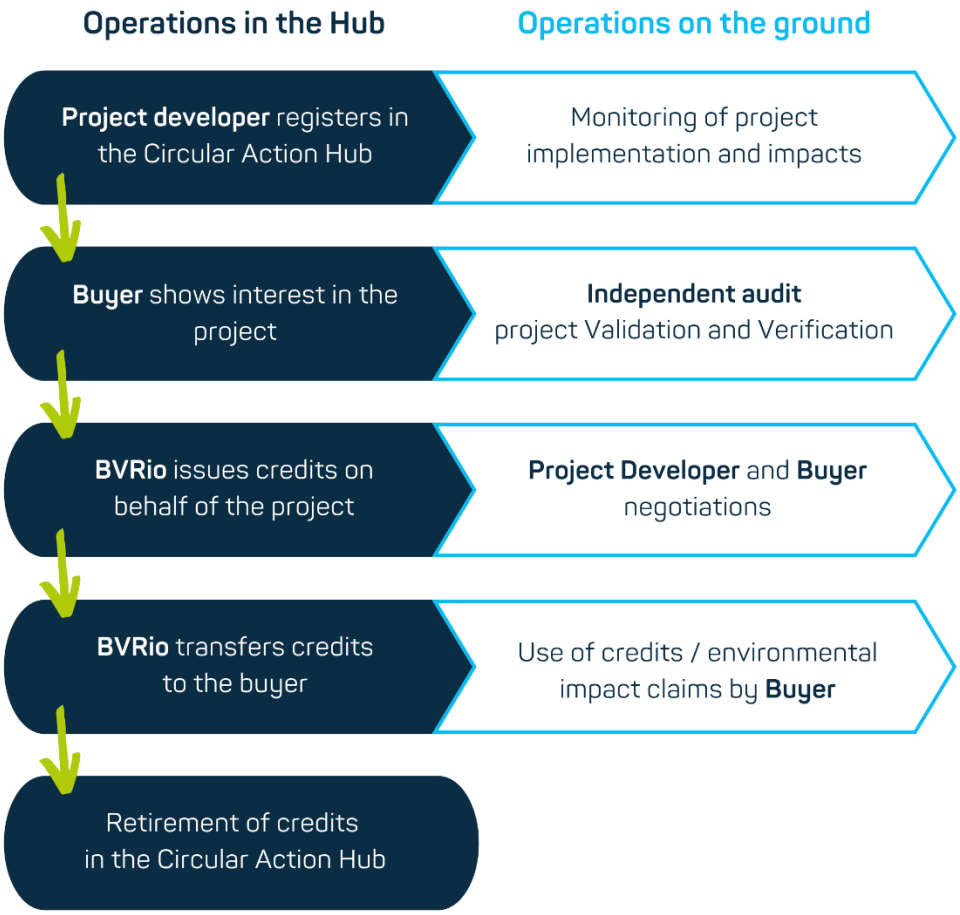
iv. At the end of the project or periodically, an independent third party carries out a **Verification** of results

v. The **verified Circular Credits are issued** for the project in the **CAH Registry**

vi. **CCs are transferred** to the buyer in the CAH Registry

vii. Once **CCs are** used for any specific claim, they are **retired** from the Registry.

Credit Lifecycle



5.2 Project Registration

To participate in the CCM, all projects must be registered in the Circular Action Hub. For that, the Lead Organisation needs to complete a project registration form, online in the Hub, broadly describing the project activities: https://www.circularactionhub.org/.

BVRio will analyse the project and, immediately or after some required modifications, publish it in the CAH for showcasing, with an estimated amount of Circular Credits allocated.

When a potential financial supporter appears, the project is subjected to a due diligence assessment by BVRio and, at some point to be defined, an audit by an independent 3rd party. The project may be required to prepare a complete PDD (Project Development Document).

If and when there are substantial changes in the projects' activities, the lead organisation should provide updated information to BVRio.

5.3 Monitoring

Once the project is in operation, project developers need to establish a continuous and reliable monitoring routine to continuously collect and store comprehensive data related to the operations, especially related to weight[10], sources and destinations. The objective is for the project to be able to substantiate the claims made in relation to the impact of the operation, and this will be audited during the project lifetime. It is highly desirable to ensure traceability of materials and payment flows from source to destination.

Different types of data may be collected for demonstrating project impact, such as internal records, fiscal/commercial records, official data records, supply chain traceability records. Examples are: invoices/receipts associated with the sale of materials to recycling plants (or intermediaries), bills of laden, transportation authorisation, waste manifests, and balance records. This documentation must be kept and made available for third party verification, prior to the issuance of credits.

Preferably, projects should use a digital monitoring system, for instance BVRio's mobile app KOLEKT (https://kolekt.com).

When necessary, BVRio provides a Monitoring Report Template for projects, to be completed before the Audit visit: https://www.bvrio.org/category/ccm_docs/

5.4 Audit

For Circular Credits to be issued, an independent (3rd party) audit process must be carried out. This is comprised of:

a) An initial *Validation*, which consists of a suitability assessment in relation to the Standard's Principles & Criteria, to determine whether the project is eligible, associated to an assessment of quantitative operational aspects; and

b) One or more *Verifications* (final or periodic ones), to be carried out after a certain period of time, which consists of a quantitative assessment of the project impact related to amounts of waste recovered in the audited period.

The audit can be performed by any duly accredited certification body. CCM provides an Audit Protocol and a Validation Checklist to guide auditors, available on the CCM Resources page on the BVRio website:

See: https://www.bvrio.org/category/ccm_docs/

Validation and Verifications are usually performed once a buyer commits to acquiring the Circular Credits from the project, and is usually contracted and paid for by the buyer. But projects may also contract the audit themselves and stay ready to sell their credits.

[10] For any alternative disposal of waste, the weight of the specific material must be recorded before converting it into new products. For example, if waste materials, such as recyclable plastic bottles, are converted into building blocks or roof tiles, the Circular Credits will be issued for the weight of the plastic bottles before its conversion into building blocks. For recovered materials, project proponents shall provide the weight of the specific material before final disposal.

5.5 Accounting and Issuance of Credits

At the point of registration, projects estimate their expected projection of credit generation for the future or auto-declare a volume of credits already created based on activities conducted in the past (a maximum of 12 months prior to registration) that can be substantiated by the projects monitoring system.

After the Validation and Verification of a Registered Project, the approved amounts of Circular Credits are issued by BVRio to the Project's account in the Circular Action Hub Registry and a Circular Impact Statement is delivered, containing the description of the waste recovery activities carried out and the amounts certified.

From there on, Credits can be immediately retired or remain available to be transacted in the Registry. See details about that in **Annex I**.

5.6 Transacting Credits

Once a buyer decides to acquire Circular Credits from a Project, the transacted CCs are transferred to the buyer and a Circular Impact Statement is delivered, with a description of the waste recovery activities represented by the Circular Credits.

When a waste recovery project is pre-financed, CCs are pre-committed and, once issued, automatically transferred to the buyer's account in the Hub; in case of performance-based payments, CCs can be pre-committed or not: projects can also offer their audited credits for sale in the Hub.

Any excess credits not sold can remain displayed in the CAH as amounts available for purchase.

There is no minimum or maximum price – developers define their prices based on their operational costs, their needs, and the 'aggregated value' of the service (for example, collecting waste from water bodies is much more expensive than doing it on land). Organisations registered on the platform can make counter offers until a settlement price is reached. While the clearing prices are those agreed by the parties, through a market-based approach, the Circular Credits Mechanism will provide a market oversight to ensure that no exploitative practices are conducted.

5.7 Credits Associated Claims

Circular Credits issued can either be purchased on a voluntary basis, often as part of an ESG corporate policy, or be used for legal compliance, to mitigate the environmental impact of the waste generators.

The CCM was designed as an international scheme, so that Credits can be created in one country and used in another one. This enables transnational support for improved waste recovery activities.

Whenever CCs are used for any claim, they must be retired in the CAH Registry, meaning that they are no longer available for purchase. Credit buyers must commit to notify BVRio.

The use of Circular Credits enables companies to claim that they mitigated the impact of a certain amount of post-consumer waste pollution derived from their operations. It does not, however, enable companies to make claims such as 'plastic neutral', 'waste offset', etc., unless complementary measures are put in place.

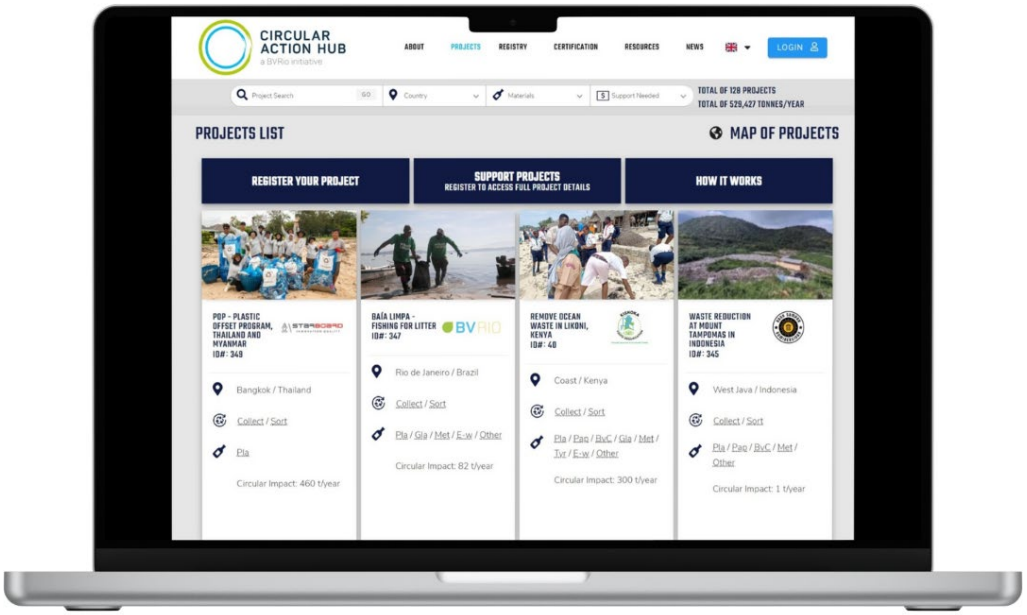
ANNEX I - The Circular Action Hub

As supporting infrastructure, the Circular Action Hub (CAH), hosts the CCM Registry, where Circular Credits are issued, transferred, and retired. The Impact Certificates and the Audit Validation and Verification Statements that substantiate the credits are publicly available in the Registry.

The Hub also holds a Projects Directory that showcases waste management projects from all around the world, connecting them with potential supporters. All eligible projects that wish to generate Circular Credits must be registered on Circular Action Hub.

Financial support for the projects listed in the Hub could come in the form of sponsorship, investment, prepayments or performance-based payments for credits created by these projects.

Projects that secure sponsorship directly through the Hub may provide sponsors with the right to the Credits they generate, but they may also want to sell all or part of their credits to other parties.



ANNEX II - A historical perspective: Reverse Logistics Credits System in Brazil

Early in 2013, in collaboration with Brazilian governmental agencies and the National Association of Waste Pickers (catadores), BVRio developed the Reverse Logistics Credits (CLRs)[11] System to assist local companies to meet their obligations under the newly created National Solid Waste Legislation, while remunerating waste pickers for their role in waste management activities.

CLRs were certificates confirming that 'reverse logistics' services were provided to ensure that a certain amount of waste was responsibly disposed of (in that case, recycled). The credits were issued by BVRio in favour of waste pickers cooperatives and purchased by producers and/or importers who needed to comply with the solid waste legislation.

For the companies, the credits provided an efficient and cost-effective solution to legal compliance. For the waste pickers, it provided an additional source, a secondary stream of revenue, adding value to their activities and resulting in an important social impact.

The pilot system operated until 2015. In one year, the cooperatives recovered and sent for recycling ca. 1,600 tonnes of solid waste, and the income from the sale of credits increased their revenue by 30%.

This effective and socially-inclusive circular economy mechanism paved the way for the creation of the Circular Credits Mechanism (CCM), associated with the Circular Action Hub, a platform to connect buyers and sellers of environmental services related to the waste circular economy and waste management solutions in general. Additionally, in 2021 BVRio, through its spin-off company 'Circular Action BV', also created KOLEKT, the world's first multi-material global waste management app, bringing together the whole recycling chain actors.

Additional information:

Reverse Logistics Credits – A social and environmental innovation to address urban waste and recycling. BVRio 2015: https://www.bvrio.org/reverse-logistic-credits/

Video: www.youtube.com/watch?v=_8X5wE0DZq0

[11] In Portuguese, "Créditos de Logística Reversa".

ANNEX III. About BVRio

Founded in 2011, BVRio is a non-profit organisation working at the intersection of economic, environmental and social sustainability. Our mission is to design and promote innovative market-based solutions for the benefit of the economy, the environment and people.

BVRio (Bolsa Verde do Rio de Janeiro – Environmental Exchange of Rio de Janeiro) was originally created with the objective of developing market mechanisms to facilitate compliance with Brazilian environmental laws. The models and approaches developed there have been adapted to develop market mechanisms, economic tools, and support the development and implementation of environmental initiatives and markets in different countries and regions worldwide.

Originally incorporated in Brazil, BVRio today also has an office in the UK, and Associates worldwide. We have supported projects and initiatives in more than 50 countries.

Our multidisciplinary approach to supporting the green economy;

- Creating market mechanisms to increase economic efficiency and address market failures
- Developing tools and initiatives to support the use of market-based approaches and create liquidity to the mechanisms created
- Contributing to public policy and promoting legal and regulatory frameworks that are efficient and able to generate environmental positive impacts.

BVRio is a member of the PREVENT Waste Alliance, and, in this context, part of the efforts to improve the quality of solutions related to waste. In 2024, we participated in the creation of the 'Guidelines on Minimum Requirements for Plastic Waste Recovery & Crediting Standards', through a PREVENT Working Group.

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