FINANCING CIRCULAR ECONOMY INVESTMENTS

Experience in Colombia

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About IDB
The Inter-American Development Bank is devoted to improving lives. Established in 1959, the IDB is a leading source of long-term financing for economic, social and institutional development in Latin America and the Caribbean. The IDB also conducts cutting-edge research and provides policy advice, technical assistance and training to public and private sector clients throughout the region.

About IDB Invest
IDB Invest, a member of the Inter-American Development Bank (IDB) Group, is a multilateral development bank committed to the economic development of its member countries in Latin America and the Caribbean through the private sector. IDB Invest finances sustainable companies and projects so they can achieve financial results and maximize the region's economic, social, and environmental development. With a portfolio of $12.44 billion in assets under administration and 342 clients in 24 countries, IDB Invest provides innovative financial solutions and advisory services in response to its clients' needs in a variety of sectors.

About BASE
BASE is a Swiss not-for-profit foundation and a specialized partner of the United Nations Environment Program that focuses on the development of innovative and market-based business models and financing strategies. These models and strategies facilitate and accelerate investments and financing to face the challenges posed by climate change and move toward a more sustainable economy. For more than 15 years, BASE has worked with financial institutions in Latin America, Europe, Asia, Africa and the Pacific region in the development of sustainable financial products and services such as circular economy, green financing lines, electromobility, renewable energies and energy efficiency, green lines, blue lines, and adaptation.

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INTRODUCTION

Throughout the past decade, the topic of circular economy has attracted huge interest from governments, business associations, corporations and academia, in Latin America and worldwide. The circular economy model emerged as an alternative to the way we currently extract, produce, consume and dispose of resources and materials (i.e., to the current linear production and consumption systems) and move existing practices toward circular systems.

Circular economy adopts an inclusive and equitable look at how to make this transition so that it does not create a negative impact on the vulnerable groups of the circular ecosystem. In this way, both micro, small and medium-sized enterprises (MSMEs) and the previously excluded vulnerable people play a priority role in the transition to circularity.

The circular model also helps fulfill the U.N. Development Agenda and is a strategic enabler to achieve the carbon neutrality goal for 2050 and other environmental commitments undertaken in accordance with the Paris Agreement. It also helps achieve the Sustainable Development Goals (SDGs) proposed by the United Nations.[1] In this way, circular economy favors an inclusive and equitable transition, because a just transition is an important component of circularity.

While renewable energy and energy efficiency strategies can reduce greenhouse gas (GHG) emissions by about 55%, the adoption of circular economy practices could mitigate the remaining 45%. [2] Making progress in the transition to a circular economy is a multi-million-dollar opportunity to implement circular innovations with different levels of gradualness based on investments in production value chains. These chains are mainly composed of small and medium-sized enterprises (SMEs), which account for a significant level of GHG emissions.[3]

As of May 2021, the total value of private financing in circular investment reached $45.5 billion globally.[4] This figure confirms a significant increase in the interest of the financial sector in promoting circular economy projects, given the benefits and the possibility of attracting and placing resources for this purpose. Circular models also mitigate the negative externalities of linear models (e.g., raw material dependence and price volatility, among many others).

Despite the progress reached in circular economy in recent decades and the interest shown by governments and the private and financial sectors, there's no unified understanding of the notion of circular economy (i.e., its classification and technical selection as explained later). This poses significant challenges such as (i) understanding, identifying and categorizing those projects that are part of the transition to a circular economy; (ii) establishing the level of circularity of the projects, i.e., determining their gradualness; and (iii) reporting and measuring the positive impact of those circular models, both in the real and financial sectors.

[1] The SDGs are an urgent call to action by all countries – developed and developing – in a global partnership. They recognize that ending poverty and other deprivation must go hand in hand with strategies that improve health and education, reduce inequality, and spur economic growth – all while tackling climate change and working to preserve our oceans and forests. United Nations. https://sdgs.un.org/es/goals; [2] Ellen MacArthur Foundation, 2020. Financing the circular economy: Capturing the opportunity. https://ellenmacarthurfoundation.org/financing-the-circular-economy-capturing-the-opportunity; [3] Idem; [4] Chatham House. Financing an inclusive circular economy: De-risking investments for circular business models and the SDGs. 2021. https://www.chathamhouse.org/2021/07/financing-inclusive-circular-economy

I. I. COLOMBIA – PROGRESS MADE IN CIRCULAR ECONOMY AND CHARACTERISTICS OF THE STUDY ON FINANCING CIRCULAR ECONOMY PROJECTS

Colombia is a pioneer in the Latin American region in the development of circular economy policies. In 2019, the Colombian government published its National Circular Economy Strategy (ENEC, in Spanish), which established six prioritized action lines: biomass, water, energy, construction materials, industrial and mass consumption materials, and materials for containers and packaging. ENEC states that circular economy has the potential to generate annual savings in materials of approximately $11.7 billion, as well as new business opportunities, linkages and strengthening of value chains.

Colombia is the pioneer in Latin America in the development of circular economy policies.

Taking into account the progress made by Colombia in the development of a circular economy policy, and acknowledging the fundamental role played by multilateral, development and commercial banks in accelerating the transition to a circular economy, the IDB and its private arm, IDB Invest, developed a pilot project. They did this together with the consulting firm BASE and three leading banks of the Colombian financial system: Bancóldex, Banco de Bogotá and Bancolombia. The project consisted of a study on the financing of investments in circular economy projects, the definition of a common categorization system for circular economy and the development of three pilot cases.

Our study explains the appropriate criteria for analyzing circular economy projects, and proposes a methodology for common categorization that allows us to identify funding opportunities that meet circular transition goals, as well as funding opportunities aimed at achieving the SDGs, the respective decarbonization (climate change) targets and a just transition.

Bancóldex, Banco de Bogotá and Bancolombia applied the proposed methodology to prospective investment projects in circular economy to determine their eligibility as "circular projects," as well as the level of gradualness of each one. This categorization was developed in alignment with ENEC and aims to contribute to the efforts made by Colombia in launching its report on the so-called "green taxonomy."[5]

The proposed categorization methodology to determine the eligibility of circular projects is an effective tool that can be used by national banks in Colombia and in the region. To this end, joint work was carried out with institutions such as ASOBANCARIA (sustainable business department), UNEP-FI and the Ellen MacArthur Foundation, which contributed to the drafting of this document through a peer review.

As part of the work carried out by the Colombian government to develop the "green taxonomy" concept, the Colombian Financial Superintendence (regulatory body of the Colombian financial system) identified "transition to a circular economy" as one of its environmental goals. Consequently, the work performed in this study is expected to make a positive contribution to those goals. This report is a summary of the final document resulting from the study.

We should point out the relationship between the performed work and Colombia's green taxonomy: The work described in this document must not be confused with the Green Taxonomy recently published by the Colombian government, or be considered an alternate taxonomy. Our study included the development of a categorization system to identify projects that contribute to the transition to a circular economy.

This categorization system should be considered as a complement to the Colombian Green Taxonomy, as it is equivalent to the eligibility criteria for the circular economy goal; therefore, this work may be used as an input when the government decides to draft the circular economy eligibility criteria. The above becomes more important when taking into account that the categorization system is aligned with ENEC, which is the policy that reflects the country's priorities in terms of circular economy. To date, the Green Taxonomy has published eligibility criteria and compliance requirements for two of its seven goals: climate change mitigation and climate change adaptation. The other five environmental goals (conservation of ecosystems and biodiversity, water management, soil management, circular economy and pollution prevention and control) have only been incorporated in the current version of the Green Taxonomy through the compliance requirements, which were developed to ensure that the activities and/or assets that have a substantial contribution to climate change mitigation and/or adaptation do no significant harm (DNSH) to any of these five goals.

[5] The methodology called "green taxonomy" charts a route for the identification and categorization of green projects and their funding using various debt-based and equity-based instruments currently available in the Colombian market.

II. FINANCING CIRCULAR ECONOMY PROJECTS: PROPOSAL FOR A CATEGORIZATION SYSTEM

The core methodology for the categorization proposal about circular economy draws on various international experiences (taxonomies and the knowledge of entities with extensive experience in circular economy) and is built on innovation models used in ENEC, with an additional criterion focused on "facilitating services."

1) WASTE (RESIDUES) VALORIZATION
Models for recovering, recycled resources to transform them into secondary raw materials, reduce final disposal and displace the extraction and processing of virgin natural resources. These models also help to reduce GHG emissions.

2) CIRCULAR DESIGN MODELS
Models that reduce the demand for the extraction of virgin resources by replacing the inputs of traditional materials derived from virgin resources with renewable or reclaimed bio-based materials.

3) LIFE CYCLE EXTENSION
Models that extend use of existing products, slow down the flow of materials required for their manufacturing, reduce the extraction rate of virgin resources, and decrease the generation of waste and its final disposal. These models also reduce the level of GHG emissions.

4) PRODUCTS AS A SERVICE MODELS (SERVICES INSTEAD OF PRODUCTS)
Models focused on marketing services instead of products. These models transfer the risks of product performance from the user to the supplier, fostering maintenance and eco-design and reducing product consumption.

5) TECHNOLOGY PLATFORM
Sharing models that allow for increasing the usage rate of products that are usually underused and can reduce the demand for new products and the raw materials they require.

6) FACILITATING SERVICES
Services that allow for acquiring knowledge and facilitating the implementation of circular projects.

The methodology developed for the categorization system establishes eligibility filters for circular economy initiatives that help financial institutions accurately determine whether a project can or cannot be considered a circular economy initiative. The three filters are: (i) inclusion, (ii) exclusion and (iii) social and environmental standards.

FIGURE A. ELIGIBILITY FILTERS FOR CIRCULAR ECONOMY INITIATIVES

* Principles of Circular Economy of the Ellen MacArthur Foundation:
- Eliminate waste and pollution from design
- Circulate products and materials (at their highest value)
- Regenerate nature

(PREPARED BY BASE).

The inclusion filters were developed based on the innovation models used in ENEC, which identify if a project can be categorized within the circular economy. Table 1 below shows some but not all of the possible inclusion filters applied in Colombia:

TABLE 1. INCLUSION CRITERIA

1. WASTE (RESIDUES) VALORIZATION
PROJECT TYPE
Initiatives to collect, clean, transport and transform reclaimed and reverse logistics materials (e.g., recycling of plastic, paper, cardboard, glass, etc.)
Biomass composting initiatives (recycling of nutrients)
Initiatives to generate energy from waste (incineration with energy recovery (biomass, containers), biodigesters, biogas)
Symbiosis between companies to use byproducts (waste) and resources (water or residual energy) and/or shared infrastructure
Design packaging that can be reused/recycled
Initiatives to transform inedible food byproducts and human waste into inputs for new products (e.g., bagasse plates)
Urban mining projects
BENEFITS
• Avoiding the extraction of virgin raw materials and the environmental impact related to extraction processes • Reducing waste disposal space and the related environmental impact • Creating employment in the waste valuation chain for collection, transportation, clean-up and transformation • Economic value based on the added value of reclaimed material and avoiding disposal of waste
SCOPE OF INCLUSION CRITERIA
Waste (residues) valorization refers to resource recovery models that recycle waste to transform it into secondary raw materials, diverting waste from final disposal and displacing the extraction and processing of virgin natural resources.

2. CIRCULAR DESIGN MODELS
PROJECT TYPE
Initiatives for eco-design, cleaner production and process optimization (e.g., efficient use of energy (LEDs), raw materials and water)
Initiatives to reuse treated water (e.g., treatment and reuse in irrigation and cooling systems)
Initiatives for renewable energy sources (solar, wind energy) based on replacing non-renewable physical resources (e.g., oil or coal) with renewable resources
Conservation of water sources (e.g., basin reforestation)
Regenerative production of food and biomaterials, including agroecology, conservation agriculture and agroforestry
Value chains of biomaterials that support the regeneration of ecosystems by harnessing the knowledge of traditional and indigenous communities, and discouraging deforestation
Development of circular food products using diverse, lower-impact, recycled and regeneratively produced ingredients
Reverse logistics to reuse materials
Smart buildings that optimize energy consumption, usability and accessibility and have been designed to extend the life cycle and circulation of materials: modular and flexible buildings that use safe materials and allow deconstruction to reuse their constituent parts; models that promote efficient use of building spaces, such as flexible and shared spaces
Systems for reusing products and containers
BENEFITS
• The efficient use of resources (raw materials, energy, water) also prevents extraction • Avoiding pollution (emissions, discharges, waste) • Economic value based on efficiencies
SCOPE OF INCLUSION CRITERIA
Circular design models substitute traditional material inputs derived from virgin resources with renewable or reclaimed bio-based materials, reducing the demand for extraction of virgin resources in the long term.

3. LIFE CYCLE EXTENSION

PROJECT TYPE

Initiatives for returnable container systems (e.g., containers)

Remanufacturing initiatives (cars, computers, machinery)

Initiatives for second-hand markets (e.g., clothes, furniture, bicycles)

Initiatives that contribute to the restoration of strategic ecosystems (basin buffer zones, wetlands, hillside reforestation, restoration of deteriorated soils)

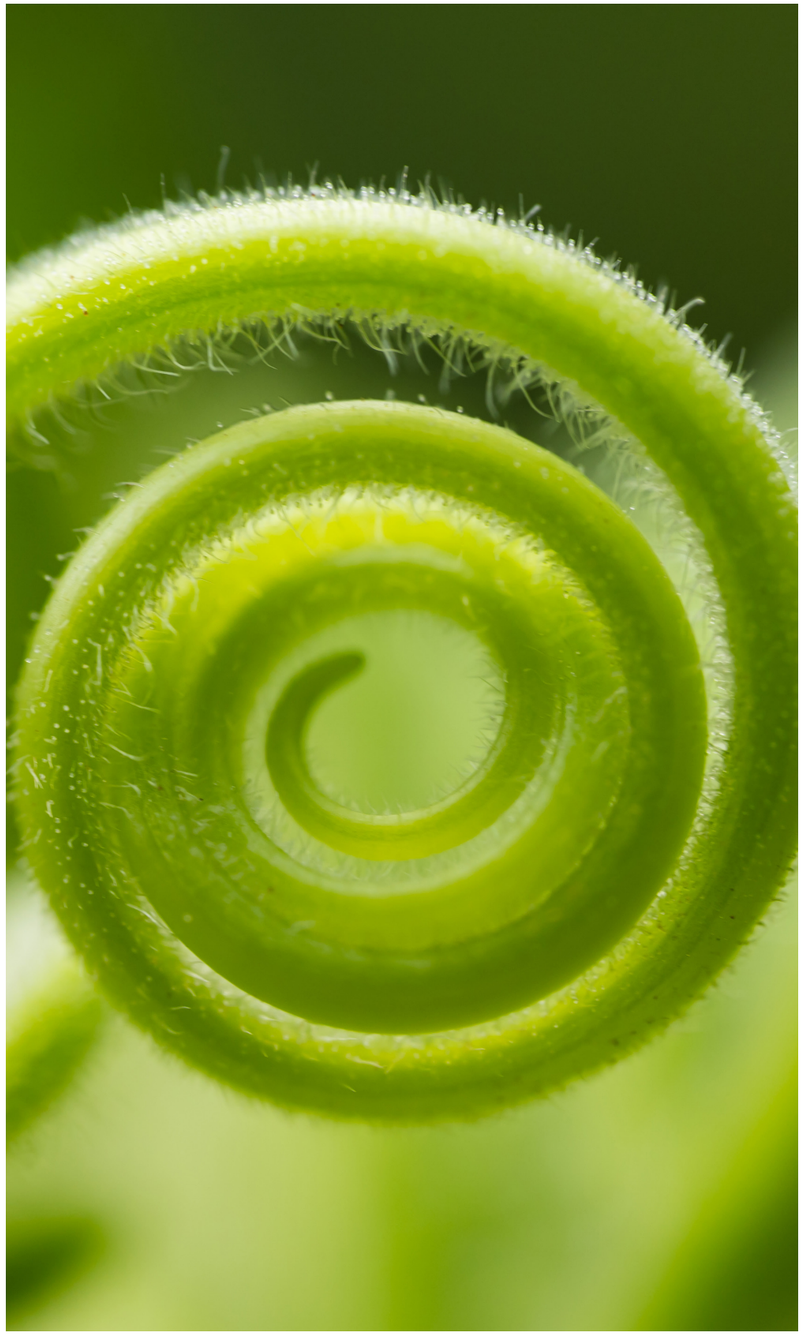
Modular design that facilitates product repair, remanufacturing and upgrade

BENEFITS

- Avoiding the extraction of virgin raw materials and the environmental impact related to extraction processes and use of energy
- Reducing waste disposal space and the environmental impact related to waste disposal
- Economic value based on efficiencies and new markets
- Strengthening ecosystems based on the protection and regeneration of renewable resources

SCOPE OF INCLUSION CRITERIA

The life cycle extension models extend the use of existing products, slow down the flow of constituent materials through the economy, and reduce the extraction rate of resources and waste generation.



4. PRODUCTS AS A SERVICE MODELS (SERVICES INSTEAD OF PRODUCTS)

PROJECT TYPE

Leasing of transportation (cars, bicycles)

Leasing of household appliances

Clothing rental

Leasing of lighting systems (Philips) and/or carpets (Interface)

Public transportation infrastructure

Chemical leasing (sale of dosing service)

Cooling or heating chain services

Steam provision services

BENEFITS

- Increasing product use intensity
- Avoiding large purchases of products and extraction of materials
- Increasing access to product consumption
- Economic value based on efficiencies and new markets
- Increasing access to product consumption

SCOPE OF INCLUSION CRITERIA

Products as a service model are based on “services instead of products” models that market services instead of products. They transfer the performance risks of products from users to suppliers, fostering maintenance and eco-design (feasible to be disassembled for improvement, maintenance and/or reutilization/remanufacturing of materials at the end of products’ life cycles).

5. TECHNOLOGY PLATFORM

PROJECT TYPE

Logistics and provision planning systems (e.g., Waze). See endnote 5.

Climate information systems for agriculture

Intelligent consumption systems

Virtual power plants

Virtual warehouse (use of digital tools to control the inventory of various works and to transfer surpluses to minimize losses).

Platforms that supply regeneratively grown ingredients, market circular food products and redistribute surpluses of edible food fit for human consumption (e.g., Too Good To Go)

BENEFITS

- Efficient use of resources (raw materials, energy, water); this also avoids their extraction
- Avoiding waste using better information and planning (emissions, discharges, waste)
- Economic value based on efficiencies and new IT service markets

SCOPE OF INCLUSION CRITERIA

The technology platform refers to sharing models that increase the usage rate of products that are usually underused and can reduce the demand for new products and the raw materials they require. Platform models also improve the efficient and effective use of resources and promote waste reduction through easy and effective access to information flows for decision-making. Platforms that help improve the efficiency of resources must be ideally applied to achieving the principles of circular economy (waste elimination, circulation of materials or support to regenerative systems. For example, in the case of Waze, the improvement in the efficient use of vehicles (they make the same journey in less time and using less fuel) not only saves resources required to produce the avoided fuel, but it is a catalyst for considering and supporting supplementary innovation models such as shared vehicles, as there is greater certainty of the required time, and this allows for more effective vehicle fleet management (e.g., the use of Waze or Google Maps by Uber drivers).

6. FACILITATING SERVICES

PROJECT TYPE

Services related to material flows provided by information systems (Life Cycle Assessment - LCA)

Technical assistance and consulting programs on circular economy

Research projects on circular economy

Training in circular economy

Circular economy company incubators

Circular design: Promote the use of work planning tools (e.g., Building Information Modeling - BIM) to optimize consumption of materials, reduce generation of construction and demolition waste (CDW) and leverage materials from recycled or reused sources

Pre-design, design, pre-feasibility and feasibility studies of circular activities

Design and support to market circular food products with diverse, lower-impact, recycled and regeneativelyproduced ingredients

Business services, products or models that may not be circular by themselves, but demonstrably allow circular economy strategies further down the value chain and/or help to create or improve circular systems (e.g., an edible coating that extends the life cycle of food products and allows for elimination of unnecessary plastic containers)

BENEFITS

- Building capacities
- Building the institutional capacity to escalate transformation toward circularity
- Building collaboration and partnerships (social capital)
- Having support for developing and implementing circular economy projects

SCOPE OF INCLUSION CRITERIA

The purpose of facilitating services is to lean into the availability of the knowledge and tools required to implement circular economy projects.

(PREPARED BY BASE)

Exclusion filters establish a list of projects that cannot be considered circular economy initiatives due to their nature and scope, because they have a negative impact on any of the three principles of circular economy, namely, 1) eliminate waste and pollution from design, 2) circulate products and materials (at their highest value) and 3) regenerate nature; as well as those projects that are not aligned with ENEC and the priorities of the Colombian government in circular economy. The exclusion list is shown below.

PROJECT TYPES
Any type of investment related to the extraction and exploration of fossil fuels
Production activities in the fossil fuel industry, except for projects that improve the energy efficiency of production processes, renewable energies, water reuse, projects for recycling special and hazardous materials in a relevant infrastructure for this industry (alignment with ENEC)
Gas exploration and development projects
Any type of investment related to mining extraction and exploration or associated with the extraction of non-renewable virgin resources
Production activities in the mining industry or other non-renewable virgin resources, except for projects that improve the energy efficiency of production processes, renewable energies, water reuse, projects for recycling special and hazardous materials in a relevant infrastructure for this industry (alignment with ENEC)
Any incineration activity, except in cases where it is part of a process to generate energy and uses biomass or containers (alignment with ENEC)
Any project that uses biomass: a) That does not come from sustainable sources (e.g., does not cause deforestation and/or compete with the production of food). This means that the land for the project has been legally acquired and the project in some way improves the existing biodiversity. b) That is hazardous where the material damages human health or the environment during or after its use and is polluted with materials that may harm human health or the environment. c) For energy production. The sponsors of the project must directly provide most of the **residual biomass** (70%); the idea is to avoid the generation of crops intended to produce biomass for energy (first-generation bioenergy crops). An exception to the latter would be if crops for biofuels are grown on marginal land unable to produce food, where their cultivation would have a restorative effect.
Hydropower projects above 10 MW that do not meet the criteria of the Climate Bonds standard for hydropower, including the utilization of the Hydropower Sustainability ESG Gap Analysis Tool (HESG) based on the Hydropower Sustainability Assessment Protocol (HSAP)
Any type of investment in companies or projects related to activities that involve animal abuse
Projects that only ensure regulatory compliance and are not presented as innovative business models that optimize the efficient use of resources; e.g., treatment plants of wastewater that is not reused, air filters and other end-of-pipe solutions. The water discharged from a treatment plant is not used in any other value-added utilization.
Water reuse/recirculation projects that increase the risks of pollution, safety and health for the users and the environment

Just transition filters: In the particular case of circular economy projects, although a project entails a number of environmental benefits, it is necessary to ensure that the transition from a linear to a circular economy is inclusive – just for all – and that it also allows for the sustainable and economic development of the participants of the ecosystem; we refer to this as a "just transition."

For instance, a just transition involves analyzing how a circular project could affect the quality of life of formal and informal recyclers who depend on waste collection for their livelihood, or how the project mitigates or satisfactorily eliminates the negative impact that may arise.

Other potential positive impacts include: creation of direct formal employment; increased resilience of the communities affected by the project; creation of employment opportunities for women (ensuring equal pay), diverse groups, migrants, vulnerable youth, people with a low level of education; and verifying that the project respects, values and makes use of indigenous knowledge and shares its benefits equitably with these communities.

The social and environmental standards filter of the Environmental and Social Risk Analysis Systems (ESRAS) and/or the Environmental and Social Management Systems (ESMS) also focuses on regulatory compliance with national standards and international good practices, to eliminate or mitigate the possible negative environmental and social impact that a project can generate.

Finally, the **supplementary elements in the categorization system**, i.e., aspects that provide transparency to the eligibility process, help categorize the projects in accordance with their level of circularity (gradualness), and identify those projects that may be questioned by third parties. This enables a better visibility of the composition of the portfolio and prevents potential criticism and risks of "greenwashing", e.g., the false impression that the products of a company are environmentally friendly.

It is important to take into account that the transition from a linear to a circular system is gradual and cumulative, and that circularity is multidimensional as well. Several criteria can impact a project's greater or lesser degree of circularity, making it difficult to assess its gradualness. The proposed categorization also allows assessment of the level of gradualness of a project using a list that includes but is not limited to the criteria for resource flows, technology innovation, resource hierarchy, and collaboration and partnerships. A non-exhaustive list of circularity criteria is included below as an example.

CIRCULARITY CRITERIA:

1. RESOURCE FLOWS: Effective use of resources (materials, water and energy) based on circularity (improvements in the productivity of these resources), origin of resources (renewable versus non-renewable resources) and number of supplementary innovation models involved (that help close the loops).

2. HIERARCHY OF CIRCULARITY IN THE USE OF RESOURCES – TECHNOLOGY INNOVATION (LANSINK'S LADDER): The intent to use resources as long as possible to reduce environmental impact and the use of materials and energy. This includes the regenerative processes of natural systems, which are circular by themselves.

3.EXTENT OF COLLABORATION: Complexity in the optimization of processes through vertical integration and/or collaboration at incoming or outgoing flow level (e.g., industrial symbiosis, agreements to foster the recovery of materials).

4.CIRCULAR INPUTS: This can be regarded as the percentage of regenerative inputs (renewable and from sustainable sources) and those of non-virgin content.

5. WATER REUSE AND RECIRCULATION

6. POTENTIAL FOR RECOVERY: Change of inputs or design that increases the potential for recovery (e.g., designed for disassembly, change from compound to simple materials, change to biomaterials).

7. ACTUAL RECOVERY: Use of business models that promote asset recovery (e.g., product as a service), and/or the application of recovery strategies (e.g., incentive program for the return of assets and their reverse logistics).

8. RELATIVE DECREASE WITH REGARD TO THE "BUSINESS AS USUAL" SCENARIO IN THE GENERATION OF A PROJECT'S WASTE, EMISSIONS AND/OR DISCHARGES

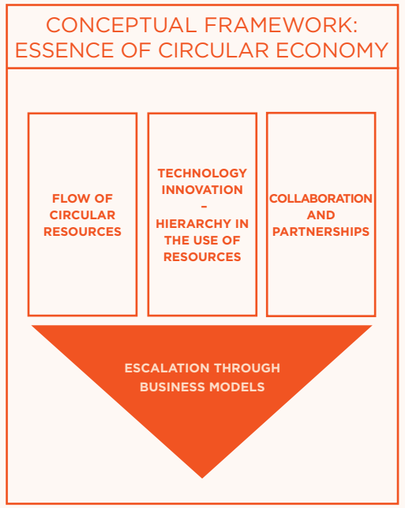
9. DECREASE IN USE OF PROBLEMATIC INPUTS: Based on their hazardous environmental impact in case of a leak.

10. HAZARD OF WASTE, EMISSIONS AND/OR DISCHARGES: Level of hazard of avoided waste, emissions or discharges. The impact of reduction in the most dangerous pollutants is greater.

11. RELATIVE DECREASE IN USE OF CRITICAL INPUTS: Parts and materials subject to supply risks; i.e., that are not easy to replace.

To adjust this categorization with ENEC, the methodology accepts the inclusion of projects aligned with the prioritized action line of "Sources and Flows of Energy" of that strategy and with other specific projects that may be questioned and/or considered greenwashing due to their nature or the industry in which they are included. From the viewpoint of the principles and assumptions of circular economy, our recommendation is to identify and include these projects as such in the annual reports of the banks (percentage of value of the portfolio of aforementioned projects in relation to the total circular economy portfolio).

FIGURE B. PRIORITY DIMENSIONS OF GRADUALNESS FOR CIRCULAR ECONOMY



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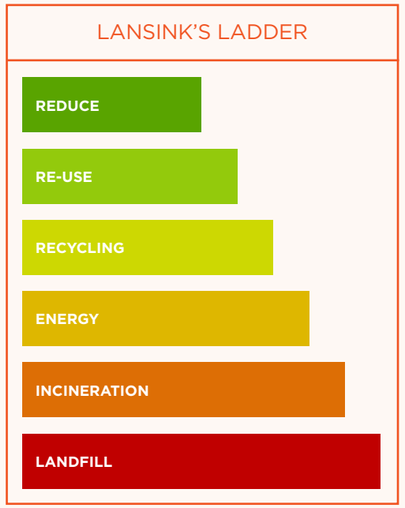
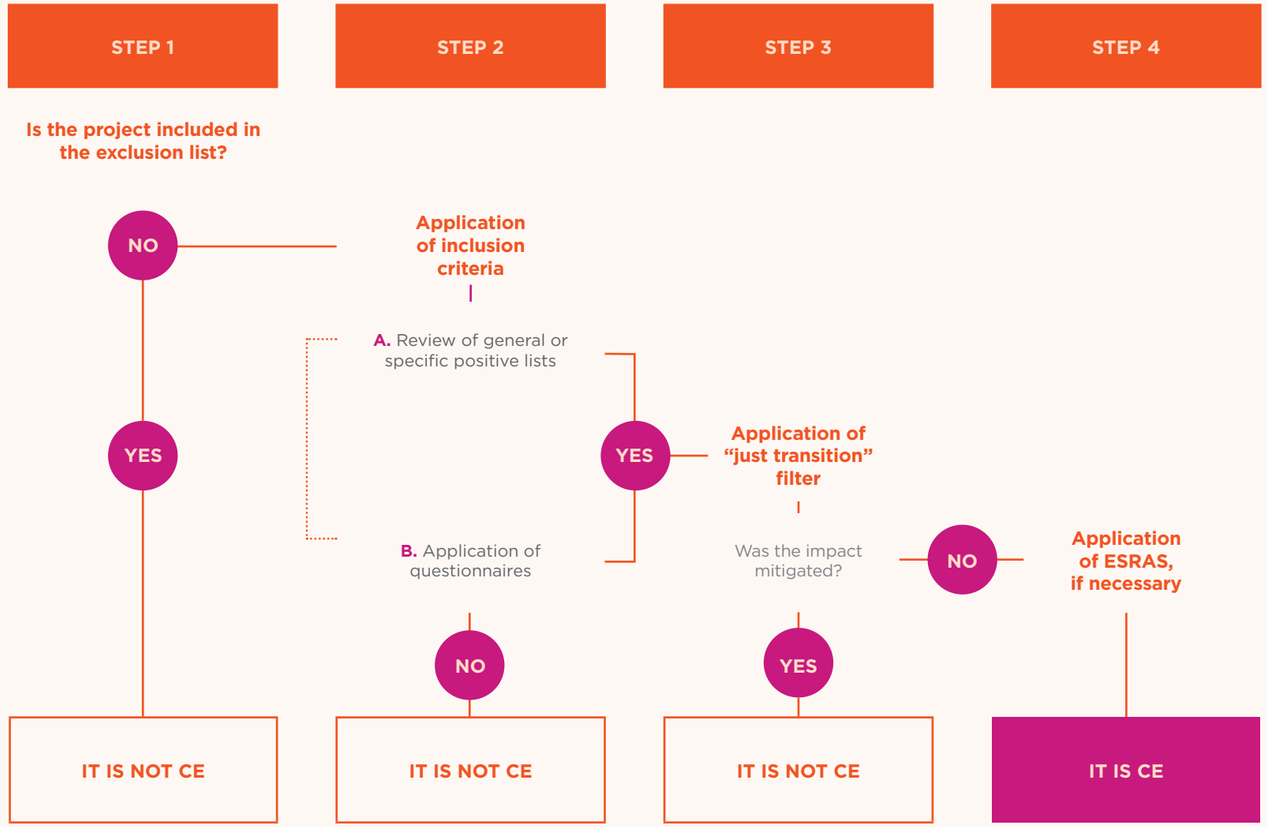


III. CATEGORIZATION METHODOLOGY

Once the categorization proposal has been developed, analysis continues as shown in the figure below.

FIGURE C. STEPS TO IDENTIFY CIRCULAR ECONOMY PROJECTS

(PREPARED BY BASE)



Step 1: Review exclusion list. If the project passes this filter, go to the next step.

Step 2: Apply inclusion filters – The proposal contains two methods that help identify potential circular economy opportunities in an independent and/or supplementary way (positive lists and questionnaires). If the project is not included in the positive lists or Step 2A (such as lists for the palm oil, cement and construction sectors), apply Step 2B - inclusion questionnaire. If at least one question in the questionnaire is positively answered with certainty, the project is considered a circular economy initiative. Go to Step 3; otherwise, the analysis comes to an end. All the questions developed for the inclusion questionnaire have the same level of relevance/weight to identify whether a project can be considered a circular project.

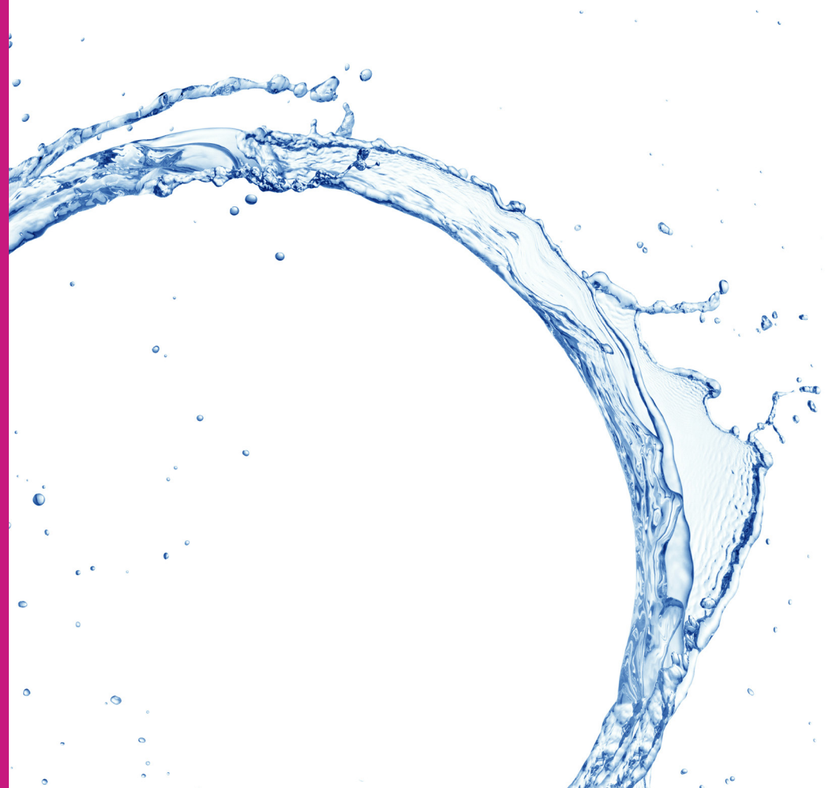


TABLE 2. VERIFICATION QUESTIONS BY INCLUSION CRITERIA

CRITERION	VERIFICATION QUESTION
1. Waste (residues) Valorization	• Does the project use resources that used to be considered waste as raw material in the same application or a different one?
2. Circular Design Models	• Does the project reduce the use intensity of the resource (materials, water, energy) by production unit? • Does the project replace non-renewable virgin resources with reclaimed non-renewable resources or renewable resources?
3. Life Cycle Extension	• Does the project extend the durability of the product? • Does the project include restoration of ecosystem services?
4. Products as a Service	• Does the project involve a user who is not the project owner? • Does the project require fewer resources to provide the service than those required from ownership by individual users?
5. Technology Platform	• Does the project generate digital information that enables decisions that contribute to the efficient use of resources? • Does the project generate digital information that connects the supply and demand of secondary materials that would otherwise have been considered waste? • Does the project generate digital information that allows for a more intensive use of products?
6. Facilitating Services	• Do the services encourage or generate information for the innovation and undertaking of circular projects? • Do the services encourage the escalation of circular business models? • Do the services help communicate innovation models and circular ventures?

(PREPARED BY BASE)

Step 3: If a project passes the inclusion filters, the potential positive social impacts are verified, particularly taking into account vulnerable groups and the acknowledgment of unique cultures in the region. Finally, verify whether the project generates any type of unmitigated direct social impact ("just transition" filter).

TABLE 3. CHECKLIST – SOCIAL SDGS DIRECTLY IMPACTED BY THE PROJECT IN A POSITIVE OR NEGATIVE WAY

NEGATIVE IMPACTS				
SDG	**RELATED QUESTIONS**	**N/A**	**ELIMINATED OR MITIGATED**	**NEITHER ELIMINATED NOR MITIGATED**
1 NO POVERTY	Does the project create existing formal or informal unemployment?			
3 GOOD HEALTH AND WELL-BEING	Does the project include the use of substances harmful to health?			
5 GENDER EQUALITY	Does the project affect women unequally compared to men?			
8 DECENT WORK AND ECONOMIC GROWTH	Is there potential for child labor within the value chain?			
10 REDUCED INEQUALITIES	Does the project unequally affect people differently based on sexual orientation, race, ethnicity, origin or religion?			

POSITIVE IMPACTS			
SDG	**RELATED QUESTIONS**	**POSITIVE IMPACT**	**COMMENTS (OPTIONAL)**
1 NO POVERTY	Does the project create direct formal employment? Does the project increase the resilience of the people affected by the project to extreme climate-related events (regenerative projects)?		
3 GOOD HEALTH AND WELL-BEING	Does the project increase access to health services for the people affected by it?		
5 GENDER EQUALITY	Does the project provide employment opportunities to women and ensure equal pay for work of equal value?		
8 DECENT WORK AND ECONOMIC GROWTH	Does the project create employment for young people, particularly for youth in vulnerable conditions (low income, low level of education, etc.), legal migrants and/or people with disabilities? Does the project intend to formalize informal employees, particularly those more disadvantaged such as women, youth, migrants and/or people with disabilities?		
10 REDUCED INEQUALITIES	Does the project provide employment opportunities to people regardless of their sexual orientation, race, ethnicity, origin or religion? Does the project respect, value and make use of indigenous knowledge, sharing the benefits equitably with these communities?		

(PREPARED BY BASE)

Step 4: The bank's ESRAS or ESMS is applied, if necessary.

If, upon going through all four steps, it is inferred that the project is, in fact, circular, the supplementary elements of gradualness and sensitivity are applied.

To establish the gradualness of a project, we also propose assessing its circularity using a simple questionnaire. Responses are tabulated on a scale from one to five, based on their level of circularity, and will be classified as such in the portfolio of the intermediary bank.

IV. EXISTING GAPS IN FINANCING CIRCULAR ECONOMY PROJECTS

As for the gaps in financing circular economy projects, this study determined that Colombian banks – especially Bancolombia, Banco de Bogotá and Bancóldex – have developed products and services to meet the demand and the need for funding sustainable solutions, such as lines specialized in energy efficiency, renewable energies, clean production and other technologies and solutions for climate change mitigation and adaptation. The broad variety of standard financial products and services offered by these banks can align to meet the funding needs of various types of clients (SMEs, corporate clients, etc.) in terms of sustainability, including leasing, factoring, working capital and corporate credit, among others. Consequently, it may be stated that, overall, Colombian banks are in a very good position to finance companies or projects with a circular economy focus.

However, to properly and efficiently address the financing of circular economy projects that support the transition to a circular system, it is necessary to emphasize the differences between a linear and a circular system, and to identify the needs and risks this entails. In fact, banks must update their funding strategy by (i) transforming their market approach, (ii) facilitating the specialization and systematization of processes; (iii) shifting from a reactive to a more proactive role; (iv) incorporating or aligning internal and external incentives; and finally, (v) building strategic partnerships with various key agents of the public and private sectors.

V. INDICATORS FOR DETERMINING AND ASSESSING THE CIRCULAR IMPACT OF PROJECTS SUBJECT TO FINANCING

From the viewpoint of a bank that has a circular economy portfolio, the indicators selected for the projects included in that portfolio require a measurement, reporting and verification (MRV) system that (i) establishes the progress of the projects in terms of circularity under environmental (circular impact and evolution of gradualness) and social (just transition6) dimensions; (ii) generates information and defines the procedures to report the evolution of the portfolio and its impact; and (iii) identifies procedures to ensure the quality of the information presented.

These measurements must be traceable, reliable, reproducible, validated, standardized and, in some cases, certified among various agents and stakeholders. They must have the potential to integrate other MRV systems at the enterprise, institutional, regional, national and international level, such as those established in the climate finance systems in Colombia.

The MRV indicators of circular economy projects allow banks to monitor compliance with the targets set for the projects, and to report achievements in compliance with the targets established in ENEC. The tables below present (i) the methodology to identify environmental and social indicators (Table 4); (ii) a non-exhaustive list of impact environmental indicators by inclusion criterion (Table 5); and (iii) a non-exhaustive list of social indicators (Table 6).

[6] Composed of criteria such as poverty reduction, reduction of inequalities, gender equity, decent work, good health and well-being, etc.

TABLE 4. METHODOLOGY TO IDENTIFY ENVIRONMENTAL AND SOCIAL INDICATORS

	ENVIRONMENTAL DIMENSION - IMPACT	ENVIRONMENTAL DIMENSION - GRADUALNESS	SOCIAL DIMENSION
STEP 1	Identify indicators for various types of projects. First, establish quantitative indicators that capture benefits associated with the inclusion criteria and that answer the questions included in the verification questionnaire by inclusion criterion.	Identify general indicators associated with questions on gradualness to assess the evolution of the circularity level over time.	Identify general indicators associated with questions on just transition (the negative and positive impact).
STEP 2	Select specific indicators associated with the flow(s) included in ENEC (the project's four main flows of materials, water and energy) and/or the project's specific characteristics.		Select specific indicators associated with the characteristics of the project that identify the mitigated or eliminated negative impact and allow for monitoring the mitigation actions. Include indicators that allow for assessing the identified positive impact.
STEP 3	Identify possible sources of information.		
STEP 4	Collect information (baseline in accordance with the established frequency) and present results. This is part of the MRV measurement process.		

(PREPARED BY BASE)

TABLE 5. NON-EXHAUSTIVE LIST OF IMPACT ENVIRONMENTAL INDICATORS BY INCLUSION CRITERIA

CRITERION	STEP 1: EXAMPLE OF GENERAL INDICATORS	STEP 2: EXAMPLE OF SPECIFIC INDICATORS	UNIT OF MEASUREMENT	STEP 3: POSSIBLE SOURCE	SCOPE OF INCLUSION CRITERIA
1. WASTE (RESIDUES) VALORIZATION	Amount of waste and byproducts reintroduced in own production processes or those of collaborating companies	Amount of residual biomass transformed into compost reused as fertilizer in the production process	Tons of residual biomass or compost produced and used	Company that designed the project, production supervisors	Waste (residues) valorization indicators aim to identify and measure the impact of projects that recycle waste to turn it into secondary raw materials, diverting waste from final disposal and displacing the extraction and processing of virgin natural resources
	Waste generation rate in the production process	HAZWASTE (hazardous waste) generation rate	Waste volume / Production volume	Production records, process supervisors	
	Index of virgin raw material, fossil energy or potable water consumption	Amount of virgin plastic used per unit of product	Consumed volume / Production volume	Production records, process supervisors	
2. CIRCULAR DESIGN MODELS	Use of regenerative and non-virgin circular inputs	Percent of regenerative (renewable and from sustainable sources) inputs used in the production process (refer to the exclusion table to understand what would not be considered sustainable)	Volume of regenerative inputs / Volume of total inputs	Product design – process planning	The indicators defined for circular design models aim to measure a proxy of the substitution of traditional material inputs derived from virgin resources with renewable or reclaimed bio-based materials that reduce the demand for extraction of virgin resources in the long term
		Percent of water reuse	Volume of reused water / Volume of total water consumption	Product design – process planning	
	Use intensity: materials, water or energy	Water productivity	M^3 of water / Tons of production	Production area	
		Increase in land productivity due to changes in practices (and not in products)	Income ($) per hectare	Financial area	
	Avoided waste	Reduced food waste	Tons of avoided food waste	Production and/or maintenance areas	
3. LIFE CYCLE EXTENSION	Avoided materials, water and/or energy	Quantity of avoided single-use plastic bottles, due to the use of a returnable bottle system	Number of avoided single-use plastic bottles or avoided tons of plastic	Invoice for sale of drinks	Life cycle extension indicators aim to measure the extension of the life cycle of materials and the reduction of pressure on the extraction of virgin raw materials
	Extension of a product's life cycle	Quantity of remanufactured items reintroduced into the market	Number of remanufactured items	Sales Office, Customer Service Office	
	Restoration of ecosystem services	Watershed restored in a sustainable manner and available water volume	Number of restored ha and flow of water (m^3/s) in monitoring area	Satellite photographs Measurement data at sampling point in river	
4. PRODUCTS AS A SERVICE	Intensity in the use of products or equipment	Hours of daily use of a shared bicycle	Average number of hours per bicycle of the system	Usage data on application platform	Products as a service indicators aim to measure the benefits associated with changing the business model from sale to the provision of a service and the incentives that this new business model offers to the provider and consumer of the service
		Subscribers to the shared use of car service	Number of subscribers as proxy of the amount of avoided manufactured products	Usage data on application platform	
	Efficient use of materials, energy and water as a result of the incentives of the service provider (e.g., improved maintenance practices)	Tons of cooling offered under a product as a service system (Cooling as a service - CaaS)	Tons of cooling invoiced	Service provision invoices	
5. TECHNOLOGY PLATFORM	Efficient use of materials, energy and water as a result of information generated by the platform	Fuel savings due to the use of digital traffic systems (e.g., Waze)	Volume of fuel saved	Application estimates using a transparent methodology	Technology platform indicators aim to reflect improvements in efficiency and savings of resources as a result of the easy and effective access to information flows for decision-making. They can also reduce the demand for new products and the raw materials they require. Platform models also allow for improving the efficiency in the use of resources and promote waste reduction through easy and effective access to information flows for decision-making. Those platforms that help to improve resource efficiency should ideally be applied to achieving the principles of circular economy (waste elimination, circulation of materials or support to regenerative systems), and this is captured within the categorization through the application of the gradualness table
	Avoided waste	Transactions on the platform of supply and demand of industrial byproducts		Purchase and sale data on application platform	
	Intensity in the use of products or equipment	Hours of daily use of a shared bicycle	Average number of hours per bicycle of the system	Usage data on application platform	
6. FACILITATING SERVICES	Availability of inputs for the development of circular economy projects	Recycling plant design	Yes / No	Designs	Facilitating services indicators aim to reflect the availability of knowledge and the necessary tools to implement circular economy projects
	Adoption of collaborative circular ventures	Number of companies with circular economy actions implemented in a region or value chain	Number or percentage of companies in a region or value chain	Assessment of facilitating services impact	
	Interest in the development of circular economy projects	Participation of companies in circular economy incubators in a region or value chain based on the incubator's approach	Number or percentage of companies in a region or value chain based on the incubator's approach	Assessment of facilitating services impact	

(PREPARED BY BASE)

TABLE 6. NON-EXHAUSTIVE LIST OF SOCIAL INDICATORS

SDGS	STEP 1: GENERAL INDICATOR	TYPE OF IMPACT*	STEP 2: SPECIFIC INDICATOR	UNIT OF MEASUREMENT	STEP 3: POSSIBLE SOURCE
1 NO POVERTY	Unemployment	-	Informal employees formalized and incorporated to the company	Number of employees	Social security (SS) forms Interviews with employees
	Employment creation	+	Created jobs	Number of new positions	Payroll comparison
	Increased resilience	+	Hectares reforested with native species	Number of ha	Comparison of satellite photographs
3 GOOD HEALTH AND WELL-BEING	Substances harmful to health	-	Availability, training and use of equipment to prevent harmful substance exposure	Yes / No (further explanation on each item: availability; training; use)	Visit (random verification)
	Access to health	+	Construction and operation of health center by the project's sponsoring company, and number of patients served	Yes / No Number of patients served	Photographs Healthcare records
5 GENDER EQUALITY	Gender impact (e.g., unemployment disproportionately affecting women)	-	Development of training program for affected women	Yes / No (further explanation on impact)	Content of program Visual records (photographs, videos, etc.) Interviews with affected women
	Creation of women's employment	+	Women hired by the company	Number of hires	HR area of sponsoring company SS declaration forms
8 DECENT WORK AND ECONOMIC GROWTH	Child labor	-	Availability of company-sponsored school for employees' children located near the area of operation (Child labor must not exist under any circumstance, and having a school reinforces this position)	Yes / No	Interviews with teachers, healthcare forms
	Employment creation for legal migrant youth or people with disabilities	+	Youth, particularly those in vulnerable conditions (low income, low level of education, etc.), legal migrants or people with disabilities hired by the company	Number of hires by group	HR area of sponsoring company SS declaration forms
	Formalization of vulnerable group work	+	Formalized and incorporated informal employees from vulnerable groups	Number of employees	HR area of sponsoring company SS declaration forms
10 REDUCED INEQUALITIES	Impact on minority groups	-	Development of training program for minority group members (different sexual orientation, race, ethnicity, origin or religion	Yes / No (further explanation on impact)	Program content Visual records (photographs, videos, etc.) Interviews with affected people
	Equality for minority groups	+	Diversity within the company workforce, including sexual orientation, race, ethnicity, origin or religion	Number of different groups	HR area of sponsoring company SS declaration forms
	Valuation of indigenous knowledge	+	Agreeing to allow community groups to engage in and preserve their indigenous practices while taking part in the project	Observation of practices	Interviews with community residents

(PREPARED BY BASE)

* DIRECT POSITIVE OR NEGATIVE IMPACT ON SOCIAL SDGS AND ANY RELATED MITIGATION

VI. TOOLS TO PROMOTE THE DEVELOPMENT OF CREDIT PROGRAMS

Two support tools were developed to encourage the business and sustainability teams of commercial banks to develop credit programs and identify potential circular economy projects.

The first tool consists of applying a business model to promote collaborative projects by grouping various agents. The model proposes to transform the current market approach by: (i) using an anchor company to create clusters or production linkages (value chains); (ii) facilitating project specialization and systematization through a circular economy laboratory[7]; and (iii) aligning government incentives with the technical assistance of multilateral and development banks, so that commercial banks can take on a proactive role in the identification of businesses through an anchor company in their value chain.

The relevance of the circular economy laboratory is based on experiences observed in banks that stand out for their progress in circular economy, as they overcome the main challenges to the financing of circular economy projects; for example, the shift in focus from linear to circular projects and the innovation required by models that reuse, repair and recycle materials.

Figure D below presents the business structure or model for the interaction and scalability of the three methods. The model includes: Option 1 (with greater scalability) and Option 2 (with more agility).

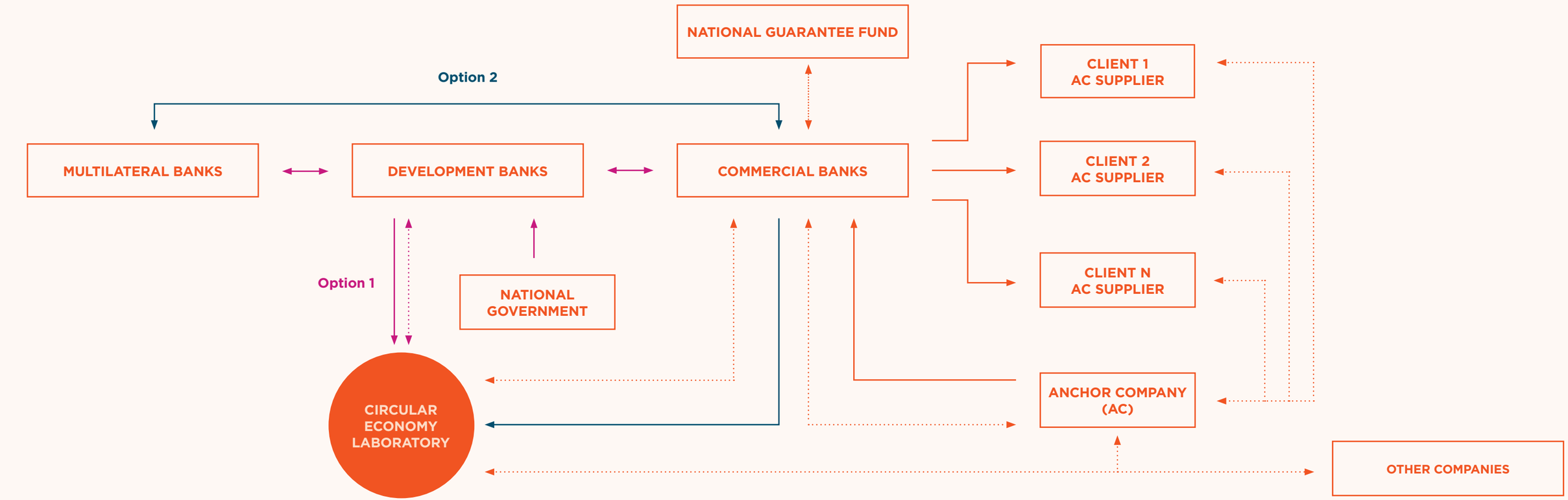
Option 1 (pink) includes the participation of development banks (funds from multilateral banks) and the national government to have a financial intermediation facility with technical assistance and appropriate financial conditions for the market. The level of adaptation of the financial conditions will depend on the amount and type of resources available from the national government (reimbursable or non-reimbursable funds) to support ENEC. In this option, the laboratory would have technical assistance funds from development banks and non-reimbursable government funds, and would be managed by those banks. In this manner, national banks and their clients would benefit from the knowledge and business opportunities generated by the laboratory, and the categorization proposed in this study would be more effective when used by the entire banking system.

Option 2 (blue) excludes the participation of development banks, and financial intermediaries obtain funds directly from multilateral banks (or another source of funding) in competitive conditions and with technical assistance. Under this option, intermediary banks would not have access to national government funds; consequently, the competitiveness of the conditions would come from attracted funds and/or issuances of thematic debt instruments and guarantee facilities, among others. The laboratory would not have government resources and would be managed by intermediary banks (only their clients and their commercial division would benefit from this). However, the laboratory could have more autonomy and agility to operate and could be managed by the local banking association (Asobancaria, in Colombia) and/or find synergies with the initiative of the Ministry of the Environment and Sustainable Development to create the circular economy laboratory.

Under either of the options, the function of the anchor company is vital for creating clusters to improve the risk profile of the SME suppliers, influence their growth through access to credit, and promote and escalate circular economy projects.

[7] During the final delivery of the final document of the study, the Ministry of the Environment and Sustainable Development announced the creation of the first circular economy laboratory in Colombia. Taking into account that such laboratory emerged after this consulting study was conducted, it is neither analyzed nor discussed in this document. However, it is known that, while the laboratory of the ministry focuses on the use of materials, the laboratory proposed herein focuses on the financial sector as a tool to promote collaborative projects.

FIGURE D. BUSINESS MODEL TO INTEGRATE THE VALUE CHAIN AS A METHOD FOR ENABLING CIRCULAR ECONOMY



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The second tool was developed as a training element for the commercial teams of intermediary banks, to didactically present the relevant elements of circular economy (project definition, categorization and identification method). The leaflet that was developed to explain this is included below as Figure E.

FIGURE E. INFOGRAPHIC TO COMMUNICATE FINANCING INVESTMENTS IN CIRCULAR ECONOMY PROJECTS TO COMMERCIAL TEAMS

FINANCING INVESTMENTS IN CIRCULAR ECONOMY PROJECTS

Promoting better businesses based on resource circularity

Identifying circular projects for financial entities

IDB

IDB | Invest

BASE

1. PRINCIPLES AND BENEFITS OF CIRCULAR ECONOMY

Circular economy projects help conserve resources, decrease environmental pollution and create new jobs

PRINCIPLES

1. ELIMINATE WASTE AND POLLUTION FROM DESIGN

- Material recycling
- Resource reutilization
- Waste reduction

2. KEEP PRODUCTS AND MATERIALS IN USE

- Extend the life cycle of resources at their highest added value
- Use renewable resources

3. REGENERATE NATURAL SYSTEMS

- Extract fewer resources
- Reinforce systems that regenerate resources

BENEFITS

1. ENVIRONMENTAL

- Decrease in negative impact
- Ecosystem regeneration

2. SOCIAL

- Formal job creation
- Behavioral change

3. ECONOMIC

- Profitability
- New businesses with potential
- Added value

2. CIRCULAR FINANCING PROSPECTS

Circular economy looks for differentiated projects

A circular economy drives production transformation as a change process in the medium and long term. More learning on the process is required to build capacities.

CIRCULARITY IN THE USE OF PRIORITY RESOURCES

Resources prioritized by the National Circular Economy Strategy (ENEC, in Spanish) public policy in Colombia.

- Industrial materials
- Biomass
- Construction materials
- Containers and packaging
- Energy
- Water

CIRCULAR ECONOMY IS AN INVESTMENT NICHE

Resource circularity is a strategy that contributes to sustainability and climate change.

Sustainability | Climate Change | Circular Economy

CIRCULAR ECONOMY INVOLVES SCALABLE BUSINESS MODELS

Business opportunities with profit potential.

3. CIRCULAR ECONOMY TAXONOMY

Circular economy involves various business models

The taxonomy identifies projects based on various circularity models that are innovative alternatives to eliminate waste, keep products and materials in use, and regenerate natural systems.

INNOVATION MODELS FOR PRODUCTION TRANSFORMATION

1. Waste (Residues) valorization models: Waste is recycled and used

2. Circular design models: Circular use of regenerative resources

3. Life cycle extension models: Redesign of products and processes

4. Products as services models: Marketing services instead of products

5. Platform models: Use of IT and data to optimize systems

6. Facilitating services: Services that facilitate the implementation of CE in companies

4. PROJECT ELIGIBILITY FILTERS

Circular economy eliminates waste from design, keeps materials and products in use, and regenerates natural systems.

The selection of circular projects involves three steps to choose impactful financial opportunities.

INCLUSION FILTERS

1) Circular use for preservation, efficient use and regeneration of resources

2) Generate innovation compared to the common standard

EXCLUSION FILTERS

1) Activities that have a negative impact on the principles of circular economy

2) Projects that only ensure regulatory compliance and do not innovate the use of resources

SAFEGUARDS AND JUST TRANSITION

1) Comply with good environmental and social practices

2) Do not affect or mitigate impact on vulnerable people

3) Regulatory compliance

IMPACTFUL CIRCULAR PROJECTS

5. GRADUALNESS OF CIRCULAR ECONOMY

Circular economy requires a production transition process in the medium and long term

EFFICIENCY AND EFFECTIVENESS IN USE OF RESOURCES

Optimize the use of resources that promote the production transformation from a linear to a circular economy.

HIERARCHY IN THE USE OF RESOURCES AT THEIR HIGHEST VALUE

Circular innovations are gradual and maximize efficient and effective use of resources

+ REDUCTION
RE-USE
RECYCLING
– ENERGY RECOVERY

NEW PARTNERSHIPS FOR NEW BUSINESSES

Collaboration among suppliers and clients in the value chain and with clients and neighbors in the region

VALUE CHAIN

Design → Extraction → Processing → Manufacturing → Distribution → Use → End of life

NEIGHBORHOOD

1, 2, 3

(PREPARED BY BASE USING GOOGLE FREE-TO-USE IMAGES)

VII. RESULTS OF APPLYING THE METHODOLOGY IN THREE CASE STUDIES

Three case studies[9] of the construction, cement and palm oil value chains were developed to show how to apply the methodology proposed for the identification of circular economy projects.8 The evaluation of the three cases ends with the methodological application for the categorization and gradualness of circular projects.11 Each case study contains general recommendations for banks and governments.

La Tabla 7 a continuación presenta un resumen de los hallazgos y resultados de los estudios de casos analizados.

[8] These are not specific projects that have already requested financing and over which a credit due diligence has been carried out; [9] By coincidence, the case studies focus on opportunities in the final stage of the value chains (waste valuation and use of this revalued waste). This does not mean that there are no other opportunities for circular economy in previous stages of the value chain; [10] Although the three cases are based on potential circular economy projects identified through interviews and visits to companies selected by the banks that participate in the project (Bancóldex, Bancolombia and Banco de Bogotá), this analysis was conducted using as a basis hypothetical projects that still have to be thoroughly analyzed by the companies that participated in this exercise and request financing from a bank, if applicable; [11] The purpose of this study is not to perform due diligence focused on credit risk, request collateral and structure a credit proposal. That phase corresponds to the participating banks.

TABLE 7. SUMMARIZED RESULTS OF THE CASE STUDIES

VALUE CHAIN	CONSTRUCTION	CEMENT	PALM OIL
IDENTIFIED FUNDING OPPORTUNITY	Production plant that uses recycled rubber granules of unused tires as pavement aggregate.	Processing plant that uses residual biomass from wastewater treatment plants (WWTPs) to distill the organic fraction in the form of biofuels through pyrolysis and gasification, and use the ashes as mineral input in a clinker furnace.	Construction of a ferti-irrigation system to use the residual biomass from the extraction plant and biodigesters and replace the use of chemical fertilizers.
APPLICABLE INNOVATION MODEL	Primary: Waste (residues) valorization Secondary: Circular design model	Primary: Waste (residues) valorization Secondary: Circular design model	Primary: Circular model Secondary: Waste (residues) valorization
JUST TRANSITION	The analyzed projects do not generate a negative impact that cannot be mitigated; on the contrary, they would bring multiple sustainability benefits to the community in their area of influence and would create economic opportunities for the local people, minimizing inequality.		
GRADUALNESS	This project has **MEDIUM** gradualness. It stands out for its impact on the efficient use of resources against the business as usual scenario, and for its capacity to generate collaborative projects that involve more than one company in the same value chain.	This project has **LOW** gradualness. Although it stands out for the impact on the use of resources against the business as usual scenario by using the muds of the WWTPs that are currently disposed of, its technology innovation is based on the destruction of biomass through incineration, which has low gradualness according to the circularity hierarchy.	This project has **MEDIUM** gradualness. It stands out for its impact on the efficient use of resources against the business as usual scenario because it redesigns the fertilization prescription and replaces a non-renewable material with an organic renewable material that has the potential to improve soil and its regenerative capacity.
SENSITIVE PROJECTS	In accordance with the categorization methodology, the proposed project **IS NOT** considered a sensitive project.	The proposed project **IS** considered a sensitive project in accordance with the categorization because it corresponds to the use of residual biomass for energy purposes, as the pyrolysis and gasification process produces biofuels; i.e., this aligns with the prioritized action line on "Sources and Flows of Energy" established by ENEC.	In accordance with the categorization methodology, the proposed project **IS NOT** considered a sensitive project.
EXAMPLES OF KEY INDICATORS (Environmental impact, gradualness and social indicators were developed and are available in the case studies).	- Amount of recycled waste (at minimum, rubber, tarpaulins and wires, if possible), measured in tons of waste. - Number of agents within the value chain (vertical integration, collaborative partnerships) - Young legal migrants or people with disabilities hired by the company.	- Amount of valued organic waste (WWTP muds), measured in tons of waste - Number of agents within the value chain - Created jobs	- Amount of substituted agrochemicals, measured in tons and percentages of substitution - Number of innovation models within the value chain - Women hired by the company
CHALLENGES AND CONCLUSIONS	- Since government purchases are relevant for circular economy, this requires regulations that demand, encourage and compensate its adoption. - The support of entities is recommended; e.g., the Innpulsa program from Bancóldex or the circular economy laboratory, as training tools and support in pre-investment and feasibility stages. - As construction companies forge partnerships with other companies in the value chain and beneficiary groups, the business and circular economy scale up.	- Training and orientation of prospective clients can be a key strategy to identify and develop investment opportunities. - Applying a supplier development program to the cement company's supply chain where financial instruments offered by the bank, such as factoring and confirming, can be applied. - Companies and banks can build a partnership to fund circular economy projects adapted to the size, amount and conditions.	- It is important to identify the differentiating factors between the current sustainability and circular economy lines developed to help clients appreciate their advantages. - Given the potential identified in the handling of residual biomasses, the initiative of producing organic fertilizers for self-supply can transcend to a line of business of production and supply of biofertilizers for other crops. This would result in regional and national benefits, taking into consideration the crisis in global supply of fertilizers.

(PREPARED BY BASE)

VIII. CONCLUSIONS AND RECOMMENDATIONS

As a result of the work performed with financial institutions and companies that participated in the consulting study, interviews with relevant Colombian and international agents, and the bibliography review, among others, we are presenting below the following cross-cutting conclusions and recommendations that are relevant to facilitate the mobilization of financial resources toward circular economy projects:

a)

Categorization is a living instrument in a constant feedback process that must be updated to reflect the evolution of circular economy, the regulatory framework and the relevant regulation (ENEC and others) in the local context.

b)

The work of entrepreneurs must be facilitated to move toward a circular economy through programs such as INNPULSA or a circular economy laboratory, as proposed in this report.

c)

Banks should incorporate a circular economy mindset in their day-to-day business, starting with their corporate governance, and build internal capacities and performance indicators that motivate its adoption. They should also share knowledge and relevant experiences at the level of bank associations and agents, to promote the transition to a circular economy.

d)

Since the transition to a circular economy is complex, progressing in stages is the most reasonable strategy. We recommend that banks focus on those materials and resources on which they concentrate their portfolio (e.g., plastics, metals, biomasses) and where there are enablers, such as government policies, that foster the adoption of circular practices in certain sectors or value chains.

e)

To accelerate the involvement of SMEs in the transition to a circular economy, Bancóldex could create a special line with the support of the government to provide assistance with reimbursable and non-reimbursable resources (e.g., with technical capacity and access to credit resources).

f)

The government could promote the transition to a circular economy through public purchases and the development of enabling conditions; e.g., through coherent regulatory frameworks or initiatives such as the circular economy laboratory, among others.


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