



D5.3

Circular Evaluation Framework Guidance Report

RdA Climate Solutions



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List of Acronyms

Acronym	Description
CAPEX	CAPital EXpenditures
CIB	Circular Investors Board
ESG	Environmental, Social and Governance
EU	European Union
GHG	GreenHouse Gas
OFMSW	Organic Fraction of Municipal Solid Waste
OPEX	OPerating EXpenditures
PDA	Project Development Assistance
PESTLE	Political, Economic, Social, Technological, Legal, Environmental
PML	Project Maturity Level
PPP	Public-Private Partnership
SECAP	Sustainable Energy and Climate Action Plan
SWOT	Strengths, Weaknesses, Opportunities, Threats
TRL	Technology Readiness Level
UCBE	Urban Circular BioEconomy
UWWS	Urban WasteWater Sludge
WP	Work Package

1. Executive Summary

The HOOP project aims to provide Project Development Assistance (PDA) to eight Lighthouse cities and regions for the future implementation of biobased processes for the valorisation of the organic fraction of the municipal solid waste (OFMSW) and urban wastewater sludge (UWWS). The goal is to help unlock bio-based investments and deploy local bio economies in Europe. The PDA is provided on technological, legal, procurement, business and financial aspects needed to develop investments to valorise biowaste and wastewater, with the aim of obtaining safe and sustainable bio-based products.

The HOOP Project Maturity Level (PML) is a standardized assessment, questionnaire, and ranking of six levels tool designed to gauge the maturity level of projects. It assigns a grade to each project based on several criteria, with the goal of enhancing their maturity and attractiveness for securing green financing and funding for implementation.

The primary objective of the HOOP PML approach is to assist project developers, promoters, and investors in identifying which projects within their portfolio are investment-ready and which ones require further development. Simultaneously, this tool facilitates matchmaking between project developers/promoters and investors, aiding in the assessment and enhancement of the maturity and bankability of Urban Circular Bioeconomy (UCBE) projects.

The HOOP PML approach provides a structured means of assessing and ranking UCBE projects while also acting as a bridge between project developers and investors. By promoting clear, transparent, and consistent evaluations, it facilitates greater access to green financing within the circular bioeconomy sector.

The HOOP PML matrices and respective calculator were developed with the purpose of measuring how well UCBE projects align with the criteria associated with each maturity level. This ranking system encompasses six distinct maturity levels, each defined by its own set of specific criteria. Additionally, it aids in the identification of the underlying rationale and supporting evidence for these assessments.

The HOOP PML calculator is integrated as an interactive feature within the [HOOP Hub](#) platform, specifically in the "[Evaluate](#)" section. Here, users can access various evaluation tools developed within the HOOP project. These tools include the HOOP Bio-Circularity Label, which rates the current performance of a city/region regarding the circular bioeconomy, and the Circular Valuation Method, used to determine the financial viability of circular projects.

2. Introduction

The EU Bioeconomy Strategy sees cities becoming major circular bioeconomy hubs, where biowaste is a feedstock for safe and sustainable bio-based products. But until now very few cities and regions in Europe have developed circular bio-based economy strategies or projects for the production of innovative bio-based products. The HOOP project aims to be the catalyst, providing Project Development Assistance (PDA) to eight Lighthouses (Albano-Laziale (Italy), Almere (The Netherlands), Bergen (Norway), Kuopio (Finland), Münster (Germany), Murcia (Spain), Greater Porto (Portugal), and Western Macedonia (Greece)). HOOP supports these LHs in developing large-scale urban circular bioeconomy initiatives that will focus on making bio-based products from urban biowaste and wastewater.

The financial side of the HOOP project is mainly covered in WP5. This WP aims to establish a shared evaluation framework for both public and private investors. This framework will facilitate the mainstreaming of investment strategies within the urban circular bioeconomy. Secondly, it strives to ensure that procurers (represented by lighthouse cities) comply with all relevant EU regulations pertaining to public procurement. This is done in preparation for launching public procurement processes and instruments beyond the project's scope, with the intention of stimulating investments in UCBE projects. Key outcomes of this work package (WP) include the creation of a Circular Evaluation Framework for investment (D5.3), the development of a Circular Due Diligence process (D5.5), and the production of an Innovation Public Procurement study and roadmap (D5.9). Additionally, the work package encompasses the Governance Public Delivery Agreement as a direct capacity-building initiative, along with providing guidance on circular public procurement for lighthouse cities.

Introducing the HOOP Project Maturity Level (PML), an instrument poised to revolutionise the landscape of Urban Circular Bioeconomy (UCBE) project assessment and development. The development of the PML is outlined in HOOP deliverable D5.3, titled "Circular Evaluation Framework Guidance Report." Originally referred to as the Circularity Maturity Level in the Grant Agreement, it was subsequently renamed as the Project Maturity Level (PML). The concept of PML ranking enjoys widespread recognition and acceptance as a common language among European investors, banks, companies, and agencies. This standardised evaluation, questionnaire, and ranking system are designed to navigate the dimensions of project maturity, positioning them for enhanced accessibility to green financing and successful implementation within the UCBE sector. The overarching objective is twofold: to assess project maturity and bolster their attractiveness to green financing channels, thus catalysing the realisation of environmentally sustainable initiatives.

The HOOP PML calculator is implemented as an interactive tool on the [HOOP Hub](#), under the [section Evaluate](#), where the user finds the other evaluation tools developed in the frame of the HOOP project, i.e. the HOOP Bio-Circularity Label to rank the current performance of a city/region in terms of circular bioeconomy and the Circular Valuation Method to assess whether circular projects are financially attractive.

3. HOOP Project Maturity Level (PML)

The HOOP PML is a **standard guidance, questionnaire and ranking tool that evaluates the maturity level of the projects in accordance with a grade where each level has several criteria to accomplish and reach**, in order to improve their maturity and bankability to mobilise green financing and funding for its realisation.

The HOOP PML approach is aimed to support project developers, promoters, and investors to evaluate which parts of their portfolio are investment-ready and which projects need further development. At the same time, this tool will also contribute for the matchmaking between project developers/promoters and investors, **contributing to assess and improve the maturity and bankability of Urban Circular Bioeconomy (UCBE) projects**.

The PML is developed in this HOOP deliverable D5.3 “Circular Evaluation Framework Guidance Report”. The Circularity Maturity Level, name established in the Grant Agreement, was renamed for PML (Project Maturity Level). The PML ranking concept is generally accepted as common language and is widely used among European investors, banks, companies and agencies.

3.1. Purpose of HOOP PML

The purpose of the HOOP PML is:

- ◆ *to provide project developers, consultants, promoters, public and private entities with a standard tool suitable for guidance, evaluation and ranking of the maturity of UCBE projects;*
- ◆ *to identify the maturity of the circular bioeconomy projects and, thus, facilitating their improvement to increase their bankability for funding and green financing of the projects;*
- ◆ *to match with investors looking for UCBE projects that meet their requirements in PML score;*
- ◆ *to provide investors, funders, and financial institutions with the information necessary to assess the maturity of an investment project in a simple, standard, and fast manner.*

The HOOP PML on circular bioeconomy, from management and valorisation of OFMSW (organic fraction of municipal solid waste) and UWWS (urban wastewater sludge), is addressed to the Lighthouse Cities and Regions, as well as the HOOP’s Network of Cities & Regions. This guidance, questionnaire, ranking and calculator will be also available online on the web-based platform of [HOOP Urban Circular Bioeconomy Hub](#) and [HOOP’s Network of Cities & Regions/Virtual Academy](#) in order to evaluate the maturity of future investment projects, which will be assessed for PDA (Project Development Assistance) innovative financial engineering for leveraging public & private investments and public procurements procedures, assessment of circular bio-based business models and PDA for Lighthouses.

This tool was based on best practice of the financial industry. It was developed by consultation made by RdA Climate Solutions to investors, contributions from HOOP Circular Investors Board (CIB) members, review from HOOP partners and a public HOOP PML Workshop held during the HOOP's Circular Investors Day 2022 in Porto (Portugal) attended by investors, banks, researchers, enterprises, project developers, cities, public entities, among others. It is also relevant to mention that programmes such as the "Smart Cities Marketplace" of the European Commission uses a similar approach for the matchmaking of project and investors.

During the HOOP PDA, UCBE projects are under assessment using the PML matrices and calculator developed under this "Circular Evaluation Framework Guidance Report". The results were compared and validated with the maturity level selected, in terms of current perception, in the HOOP Investment Intake Forms filled in February and March 2023 by Lighthouses.

3.2. Advantages of HOOP PML

Using the **HOOP Project Maturity Level (PML) approach**, offers an advantage for cities, project developers, investors, and various stakeholders within the Urban Circular Bioeconomy (UCBE) landscape, such as:

- 1. Standardisation of Evaluation:** PML offers a uniform tool that can be applied across various UCBE projects. This ensures that all projects are evaluated on consistent criteria, leading to more objective and comparable assessments.
- 2. Guidance for Project Developers:** The PML serves as both a guidance tool and a benchmark. Project developers can clearly see which criteria they need to meet, helping them understand improvement topics, thereby enhancing their project's attractiveness and bankability.
- 3. Efficient Investor Matchmaking:** The PML provides an efficient mechanism for matching projects with investors. By categorising projects based on their maturity levels, investors can quickly identify projects that align with their risk profile and investment criteria.
- 4. Increased Investor Confidence:** A clear ranking based on PML can boost investor confidence by offering a transparent and systematic assessment of a project's maturity. This can potentially lead to more streamlined investment processes and quicker decision-making.
- 5. Online Accessibility:** Making the PML tool available on the HOOP Urban Circular Bioeconomy Hub and other platforms ensures broad accessibility, enabling a wider range of stakeholders to assess and develop projects in line with established criteria.
- 6. Data-driven Decisions:** The incorporation of PML matrices and calculators, aids in a more quantitative assessment, ensuring decisions are rooted in data rather than just subjective judgment.
- 7. Alignment with Existing Initiatives and best practices:** The fact that the PML was developed using best practices from the financial industry, consultations with diverse stakeholders and aligned with existing matchmaking programs ensures a well-rounded and robust tool. Such approach is likely to result in a more universally accepted and effective framework.

8. **Validation Mechanism:** The PML also acts as a validation tool. By comparing results from the PML with the perceptions reflected in the HOOP Investment Intake Forms, discrepancies can be identified and addressed. This feedback loop is crucial for continuous improvement.
9. **Enhanced Project Development Assistance (PDA):** By leveraging the PML, the HOOP PDA can offer more targeted and effective assistance, ensuring that projects are not only mature but also align with investor needs and market demands.

In summary, the HOOP PML approach not only offers a systematic method for evaluating and ranking UCBE projects but also serves as a nexus between project developers and investors. By ensuring clarity, transparency, and consistency in evaluations, it paves the way for increased green financing in the circular bioeconomy sector.

4. How to use the HOOP PML approach

The HOOP PML matrices and calculator were created to quantify the compliance of the UCBE projects with the criteria of each level, as well as the respective rationale and evidence identification. This ranking consists of **six maturity levels**, with specific criteria for each level, namely:

PML 1 - Potential project identified. Project or technology apparently suitable for intervention.

PML 2 - Project potential quantified (via audit, study, benchmarking, etc.).

PML 3 - Project investment estimated, and suitable business models identified.

PML 4 - Technical project and business case developed.

PML 5 - Investment-Ready. Business case and tender model confirmed.

PML 6 - Investment offer or tendering requirements created. Ready to sign or launch the tender.

The HOOP PDA will focus on projects at PML 3 and 4 when viability and relevancy of business models become key issues for the success of the circular initiatives. Note that for reaching PML 3, a suitable business model must be identified and to reach PML 4, the business case must be developed.

The six PML matrices (**Table 1. PML 1 matrix. Potential project identified, Table 2. PML 2 matrix. Project potential quantified, Table 3. PML 3 matrix. Project investment estimated and suitable business models identified, Table 4. PML 4 matrix. Technical project and business case developed, Table 5. PML 5 matrix. Investment-Ready, Table 6. PML 6 matrix. Investment offer or tendering requirements created**) are composed by a **“rationale” section** that corresponds to a descriptive answer justifying the each option selected in “checklist” section (the options available are “yes, totally” , “yes”, “yes, partially”, “no” and “not applicable”). The answers to those options in the checklist are related to the set of questions/criteria to evaluate the level of maturity. Moreover, **“evidence” section** corresponds to the list of documentation that proves the respective answers under “rationale” and “checklist” sections.

After pre-check and ranking of the projects, they will be ready to match with an investor looking for projects that meet their requirements (in terms of PML score, technology, size, etc.). This process is not a due diligence, but a first approach and a ranking system to understand how close the project is to be bankable.

Relevant considerations:

Rationale - A short descriptive answer justifying the option selected for each criterion.

Evidence - List of evidence of the Rationale. The list can include the name of the documents and/or links. At this moment, we don't need the documentation in file.

In cases where the criterion corresponds to a task, study, report or deliverable to be produced within a PDA, option “yes, partially” should be selected indicating in the rationale section that “the criterium will be accomplished through a specific task to be performed during a PDA”.

5. HOOP PML Checklist

5.1. PML 1 - Potential project identified

Table 1. PML 1 matrix. Potential project identified

Level	Criteria	Checklist	Rationale	Evidence
<p>PML 1 – Potential project identified</p> <p>Project or technology apparently suitable for intervention</p>	Has the project identified and analysed the key constraints and opportunities? For instance, through SWOT analysis, PESTLE, Five Forces, among other techniques.	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	Is the site of the project defined?	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	Are the main goals of the project defined?	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	Are the main users and target beneficiaries of the project identified?	<input type="checkbox"/> Yes, totally <input type="checkbox"/> Yes, partially <input type="checkbox"/> No		
	Is the political/institutional and/or private organisational ownership and structure stated, formulated and achieved (e.g., letter of commitment signed)?	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	Are all stakeholders to be engaged identified and prioritised?	<input type="checkbox"/> Yes, totally <input type="checkbox"/> Yes, partially <input type="checkbox"/> No		
	Are the ideal human resources responsible to manage and develop the project identified?	<input type="checkbox"/> Yes, totally <input type="checkbox"/> Yes, partially <input type="checkbox"/> No		
	Is there a potential market/ client(s) for the bioproducts and services to be commercialised?	<input type="checkbox"/> Yes, totally <input type="checkbox"/> Yes, partially <input type="checkbox"/> No		
	Is the project, and its supply of bioproducts and services, complying with criteria from regulations, permits, intellectual properties, and certification schemes?	<input type="checkbox"/> Yes, totally <input type="checkbox"/> Yes, partially <input type="checkbox"/> No <input type="checkbox"/> Not Applicable		

Level	Criteria	Checklist	Rationale	Evidence
	Is the project linked to any relevant strategic framework (e.g., SECAP or other plans of similar ambition)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable		
	Is the project linked to other relevant initiatives and/or projects?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable		

5.2. PML 2 - Project potential quantified

Table 2. PML 2 matrix. Project potential quantified

Level	Criteria	Checklist	Rationale	Evidence
<p>PML 2 – Project potential quantified.</p> <p>Via audit, study, benchmarking, etc.</p>	Are all capacities and resources needed to implement the project identified (e.g., PDA roadmap, project map)?	<input type="checkbox"/> Yes, totally <input type="checkbox"/> Yes, partially <input type="checkbox"/> No		
	Is the supply chain of feedstock (biowaste, digestate and other raw materials) and other resources (water, energy, etc.) assured and suitable to produce bioproducts and services estimated in the project?	<input type="checkbox"/> Yes, totally <input type="checkbox"/> Yes, partially <input type="checkbox"/> No		
	Is a neutral or negative emissions project, i.e., a project non-dependent on fossil fuels?	<input type="checkbox"/> Yes, totally <input type="checkbox"/> Yes, partially <input type="checkbox"/> No <input type="checkbox"/> Not Applicable		
	Are the technical/functional, performance and space requirements for the technological solution clear?	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	Is the project detailed enough to enable a comparability of alternative technologies (state-of-the-art)?	<input type="checkbox"/> Yes, totally <input type="checkbox"/> Yes, partially <input type="checkbox"/> No		
	Can the project be potentially upscaled, i.e., in terms of size and capacity of processing?	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	Is the project potentially replicable, i.e., can the project be implemented in more territories?	<input type="checkbox"/> Yes <input type="checkbox"/> No		

5.3. PML 3 - Project investment estimated and suitable business models identified

Table 3. PML 3 matrix. Project investment estimated and suitable business models identified

Level	Criteria	Checklist	Rationale	Evidence
PML 3 – Project investment estimated and suitable business models identified	Are the investment costs (CAPEX) indicatively estimated?	<input type="checkbox"/> Yes, totally <input type="checkbox"/> Yes, partially <input type="checkbox"/> No		
	Are options for business models identified, including the identification of the bioproducts and services, the business plans to sell, identification of target markets, and anticipation of expenses?	<input type="checkbox"/> Yes, totally <input type="checkbox"/> Yes, partially <input type="checkbox"/> No		
	Are potential funding sources identified (e.g., grants, donations, subsidies, alternative funding as crowdfunding and others)?	<input type="checkbox"/> Yes, totally <input type="checkbox"/> Yes, partially <input type="checkbox"/> No <input type="checkbox"/> Not Applicable		
	Are potential financing sources identified (e.g., loans, equity, quasi-equity, bonds, lease, guarantees, venture capital, alternative finance)?	<input type="checkbox"/> Yes, totally <input type="checkbox"/> Yes, partially <input type="checkbox"/> No <input type="checkbox"/> Not Applicable		
	Are potential blended finance sources identified (e.g., PPP, revolving funds, etc.)?	<input type="checkbox"/> Yes, totally <input type="checkbox"/> Yes, partially <input type="checkbox"/> No <input type="checkbox"/> Not Applicable		

5.4. PML 4 - Technical project and business case developed

Table 4. PML 4 matrix. Technical project and business case developed

Level	Criteria	Checklist	Rationale	Evidence
PML 4 – Technical project and business case developed	Is a monitoring plan with measures and indicators defined?	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	Are the procurement needs and requirements identified for the good execution of the project (e.g., schedule of works, bill of quantities, tender model and/or technical specification document)?	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	Are the operating costs (OPEX) indicatively estimated?	<input type="checkbox"/> Yes, totally <input type="checkbox"/> Yes, partially <input type="checkbox"/> No		
	Are the revenues and savings (regarding previous waste management status) indicatively estimated?	<input type="checkbox"/> Yes, totally <input type="checkbox"/> Yes, partially <input type="checkbox"/> No <input type="checkbox"/> Not Applicable		
	Is the business model selected, including the estimation of bioproducts and services to provide/sell, and the proposal of business plan and target markets with market mapping, and anticipation of expenses?	<input type="checkbox"/> Yes, totally <input type="checkbox"/> Yes, partially <input type="checkbox"/> No		
	Is the economic viability indicatively assessed (e.g., simple payback period, net present value, internal rate of return)?	<input type="checkbox"/> Yes, totally <input type="checkbox"/> Yes, partially <input type="checkbox"/> No <input type="checkbox"/> Not Applicable		
	Is the approach for generating profit and/or value through the project indicatively described?	<input type="checkbox"/> Yes, totally <input type="checkbox"/> Yes, partially <input type="checkbox"/> No		
	Is the expected timeline for the project investment defined?	<input type="checkbox"/> Yes, totally <input type="checkbox"/> Yes, partially <input type="checkbox"/> No		
	Are the risks associated with the project identified and assessed, and respective mitigation measures planned, i.e., due diligence procedure applied?	<input type="checkbox"/> Yes, totally <input type="checkbox"/> Yes, partially <input type="checkbox"/> No		

5.5. PML 5 - Investment-Ready

Table 5. PML 5 matrix. Investment-Ready

Level	Criteria	Checklist	Rationale	Evidence
PML 5 – Investment-Ready Business case and tender model confirmed	Are the investment costs (CAPEX) estimated in detail?	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	Are the operating costs (OPEX) estimated in detail?	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	Are the revenues and savings (regarding previous waste management status) estimated in detail?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable		
	Is the business model described in detail and confirmed, as well as its bioproducts and services to provide/sell, business plan completed, target markets with market mapping study performed, and anticipation of expenses finalised?	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	Is the economic viability precisely assessed (e.g., simple payback period defined, the net present value calculated, internal rate of return identified)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable		
	Is the approach for generating profit and/or value through the project finalised?	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	Are all several expected impacts estimated (e.g., bioenergy production, bioproducts production, GHG emission reduction, jobs created, % waste reduction, etc.)?	<input type="checkbox"/> Yes, totally <input type="checkbox"/> Yes, partially <input type="checkbox"/> No		
	Is the timeline for the project investment confirmed?	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	Are all necessary funding and/or financing sources defined, quantified and allocated?	<input type="checkbox"/> Yes, totally <input type="checkbox"/> Yes, partially <input type="checkbox"/> No		
	Is the appropriate procurement procedure identified and suitably opened to innovation, i.e., tender model confirmed, or contractor(s) identified or confirmed?	<input type="checkbox"/> Yes <input type="checkbox"/> No		

5.6. PML 6 - Investment offer or tendering requirements created

Table 6. PML 6 matrix. Investment offer or tendering requirements created

Level	Criteria	Checklist
<p>PML 6 – Investment offer or tendering requirements created</p> <p>Ready to sign or launch the tender</p>	<p>Are all requirements indicated in the previous PMLs met?</p>	<p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>

5.7. Calculation of the overall PML of the project

The Project Maturity Level (PML) approach is designed to assist project developers, promoters, and investors in identifying which segments of their portfolio are ripe for investment and which projects require additional refinement.

The checklist ranking is distributed into: Answers “Yes” and “Yes totally” have a score of 1; Answer “Yes partially” has a score of 0.5; Answer “No” has a score of 0; “Not applicable” means that criterium is removed from the PML calculation for the respective level.

Each level of the PML will be reached if at least 50% of the level criteria are met. To reach PML 6, at least 75% of PML 5 criteria need to be accomplished and 100% of the lower PML.

The user may calculate the overall PML manually or with the online PML calculator available on the [HOOP Hub](#) under to [section Evaluate](#).

Table 7. Project Maturity Level final score.

	Level	Score [%]	Project PML
Project Maturity Level (PML)	PML 1 – Potential project identified. Project or technology apparently suitable for intervention.		
	PML 2 – Project potential quantified. Via audit, study, benchmarking, etc.		
	PML 3 – Project investment estimated, and suitable business models identified.		
	PML 4 – Technical project and business case developed.		
	PML 5 – Investment-Ready. Business case and tender model confirmed.		
	PML 6 – Investment offer or tendering requirements created. Ready to sign or launch the tender.		

6. Conclusions, requirements and tips

To ensure that a specific project garners interest from potential investors and aligns with their expectations, it is imperative for cities and project developers to demonstrate specific characteristics. The calculation of the PML with the tool presented in this report will help project developers to assess the investment readiness level of a project and work on those aspects that need further definition. However, besides the PML calculation, we encourage project developers and financiers to consider the following lists of tips and requirements when addressing the creation and the evaluation of circular Bioeconomy project.

Drawing from insights in the financial industry, the following list elucidates key requirements and beneficial strategies:

1. **Understanding the bio-based value chain:** Analysing and assessing the entire value chain of the project is crucial. This may include the sourcing of renewable feedstocks, the conversion process, and the distribution of bio-based products. Each step should be assessed for efficiency, circularity, and sustainability (evaluating how the project contributes to sustainability goals established at local, national and European levels).
2. **Feasibility and Business Model:** Presenting a comprehensive report that details the project's technical, economic, and environmental viability, paired with a complete and sustainable business model. The report carefully assesses the project's business model, its sources of revenues and market potential, and the scalability and replication of the model. Competitive landscape and potential local barriers may jeopardise the project.
3. **Regulatory Compliance and Governance:** Projects should not only adhere to all relevant regulations but also demonstrate transparent and ethical governance structures. A comprehensive evaluation of the project's ESG (environmental, social and governance) metrics, encompassing its environmental footprint and long-term sustainability strategies, and EU taxonomy alignment, is of paramount importance, as well as investigating the regulatory and policy framework that governs UCBE projects in the specific city or region where the project is located. Government incentives and policies can significantly impact the success of such projects.
4. **Stakeholder and Community Engagement:** Projects that engender robust support from communities and key stakeholders tend to face fewer hurdles and objections as they progress. Evaluating the project's impact on the environment and local communities is fundamental in order to enhance the positive social and environmental footprint of the project – only with this preventive and democratic approach, it is possible to gain public support and regulatory approval by the populations, social and political movements and public entities. Moreover, partnerships and collaborations with research institutions, universities, or industry leaders are another key to the success of the project, enhancing the project's credibility and innovation potential.

- 5. Financial Health and Risk Management:** Investors look for projects with robust financial forecasts and a comprehensive risk assessment to gauge potential profitability and understand associated risks. Engaging in a rigorous due diligence process is recommended and the HOOP Due Diligence Standard Procedure is an excellent tool to support this achievement.
- 6. Standardisation:** Using standard tools such as the HOOP PML Approach and HOOP Due Diligence Standard Procedure can reduce transaction costs and de-risk projects.

On the investment side, for decisions in the UCBE sector to be discerning, it is essential for investors to have an intimate understanding of the sector's specific traits. Based on industry best practices, below are pivotal guidelines, complemented by resources from the HOOP Project:

- 1. Ongoing Sectoral Education:** Consistently participating in UCBE-centric seminars, workshops, and conferences is key. Events such as the HOOP Circular Investors Day cater precisely to this need. The motto is to start by gaining a comprehensive understanding of what the urban circular bioeconomy and its projects entail. This includes knowledge and raising awareness about bio-based materials, principles of circularity, waste management, among others. The state-of-the-art technologies for the production of bioproducts from biowaste and wastewater, the [HOOP Investment Package Manual](#) and the [HOOP Virtual Academy](#) are an excellent support in this educational and raising awareness pathway.
- 2. Engagement with Domain Experts:** This is forging connections with UCBE experts and industry professionals to gain in-depth insights and ensure a well-rounded understanding. The HOOP project released a set of reports that can help to navigate on UCBE projects and their technologies and processes.
- 3. Practical Site Assessments:** Conducting direct visits to UCBE initiatives (e.g., from the HOOP Lighthouses) offers an empirical perspective, enabling a better grasp of the real-world operational nuances and potential challenges.
- 4. Adherence to Regulatory Insights:** This means familiarising with the current regulatory frameworks governing the UCBE sector. Embracing EU taxonomy guidelines might serve as a pertinent starting point.
- 5. Prioritisation of ESG Metrics:** This implies going beyond financial potential, emphasising projects that robustly address Environmental, Social, and Governance criteria, ensuring alignment with broader sustainability objectives and best practices.
- 6. Long-Term Horizon and project's changes:** The circular bioeconomy projects often require a long-term investment horizon, mainly when the project's timeline includes an increase of size through replication and/or upscaling (e.g., from pilot to full scale, or increasing the number of modules, etc.) or/and when the projects are coupled with other ones in the field of new waste services and bioproduct production/material valorisation processes. These projects may take time to establish and become profitable, mainly when the TRL is lower, or the technology is very recent. Moreover, the UCBE projects can change several times during design and development in accordance with the PDA, studies, regulations, among others.

With these guidelines, both city administrators and investors can better navigate the intricacies of the Urban Circular Bioeconomy sector, ensuring the alignment of projects with investor expectations and the broader sustainable development goals. Furthermore, “stay updated” is fundamental for investors, cities, project developers and promoters in the field of circular bioeconomy, because it is continually evolving with latest industry trends, innovations, and policy changes that may impact the UCBE sector and its projects and investments.

Investing in urban circular bioeconomy projects can align with both environmental and financial objectives. However, thorough due diligence and a deep understanding of the project's specificities and their maturity levels are crucial for making sound investment decisions in this sector.